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See also back page

VOLUME 1

2 E 97
Shopping around.
Anon.
Brewers' Guardian 97 (10, Suppl.) 16-24 (1968) [En]

A brief summary of 47 new and established products and equipment available for the catering industry is given. EAW

5 C 155
[Food infection in catering establishments.]
Lebensmittelinfektionen und Gemeinschaftsverpflegung.
Münchow, S.
Alimenta 8 (1) 23-27 (1969) [12 ref. De] [Forschungsstelle für Sozialmedizin, Lehrstuhl für Hygiene, Univ. Hamburg 36, Alsterglacis 3, W. Germany]

6 case histories of mass outbreaks of food poisoning are presented. The most probable
urces of bacterial infection in large scale
tering are keeping meals warm for several h and
recooking of meat 24 h before consumption. The
ew automatic food dispensing machines for heating cooled or deep frozen meals in a few secs by microwaves or 1-2 h before consumption by hot air are bacteriologically much safer. Basic hygiene
nands listed include medical participation
ing planning of kitchens, cleanliness of
chen, equipment and personnel, health of
sonnel, regular checking of raw materials,
nination of precooking and consumption
hin 4 h of cooking. Samples from each meal
uld be kept for 24 h for examination and health
horities notified immediately of food
isoning. RM

416
echnical and economic aspects of freezing and
awing apparatus for deep frozen meals.]
lk, A. L.
oeltechniek 62 (1) 11-14 (1969) [Nl] [GRENCO, 's Hertogenbosch, The Netherlands]

Methods and equipment for heating deep-frozen
eals in large kitchens are described. Hot-water
eating is effective, produces no overheating, raises temp. from -20°C to 75°C in 10-15 min, requires waterproof packing and can be automated. Steam-heating resembles pressure cooking and may affect flavour. An electric oven with wall heating can heat 24 meals from -20°C to 75°C in 20 min. Wall temp. must be $<240°C$. The oven requires very good construction and produces a baking effect. Hot-air ovens heat from -20°C to 75°C in 25-30 min, at air temp of 150-170°C with air flow of 2 m/sec and handle 12, 18, 36 or 72 meals/charge. Gas or electric ovens capable of handling $\leqslant 1000$ meals/h serviced by only 2 persons are available, and give even overall heating but with a slight baking effect. Metal and plastics containers can be used. Microwave ovens operate at 2450 megacycles/sec and heat a meal in 1-2 min, but cannot cope with peak demand. Infrared ovens heat a meal from -20°C to 75°C in 7 min. but have the disadvantage of uneven heating, or of overheating. Dielectric heating operates at 1-100 megacycles/sec, requires 5 min and may produce irregular heating. Comparative costs/meal are calculated for hot water, hot air and microwave systems. Capital investment and space requirements of deep-freeze cooking are only one-tenth of conventional methods and labour cost is also considerably less. Attention must be given to packing materials. [See FSTA (1969) 1 4L323 for previous part.] RM

G 193
Food service in institutions. [A book]
West, B. B.; Wood, L.; Harger, V. F.
4th edition 702pp. (1966) [Numerous ref. En] New York, London & Sydney: **John Wiley & Sons, Inc.** Price 122s [Division of Inst. Management, St. Univ., Columbus, Ohio, USA]

This well illustrated basic text and reference book on quantity food service management consists of 3 sections. Section 1, 'Quantity food service' includes: 'Development of food services in institutions', (pp. 3-30); 'Meat planning, food standards, and service', (pp. 31-68); 'Food selection and storage', (pp. 69-176); 'Food products and their preparation', (pp. 177-298). Section II, 'Organization and administration', deals with: 'Organization and management', (pp. 301-34); 'Administrative leadership', (pp. 335-58); 'Personnel management', (pp. 359-96); 'Cost control', (pp. 397-463); 'Sanitation and safety', (pp. 464-524). Section III, 'Physical facilities' contains the chapters: 'Floor planning and layouts', (pp. 527-87); 'Equipment for kitchens and serving rooms', (pp. 588-640); 'Furnishings and equipment for dining rooms', (pp. 641-75); The appendix (pp. 676-93) deals with plans for the organization of college residence halls. There is an 8 pp. subject index. JN

6 E 574
Production of pre-cooked frozen foods for mass catering. [A book]
Rogers, J. L.
xiv + 271pp. (1969) [En] London: **Food Trade Press, Ltd.**, Price 60s [Durban, Natal, S. Africa]

The subject is covered in 4 parts: 'Planning, equipping and controlling a central kitchen'; 'The general technology of cooking, packing and freezing of pre-cooked foods'; 'The preparation and cooking of foods for freezing'; and 'Mass catering with precooked frozen foods'. JN

6 G 224
Processor and caterer team up.
Ziemba, J. V. (Editor)
Food Engineering 40 (12) 90-92 (1968) [En] [120 S. Riverside Plaza, Chicago 60606, USA]

Details are given of the catering system operated by Canteen Corp. at the Int. Amphitheater, Chicago, USA which involves: purchase of prepared frozen foods from Armour and Co.; use of combined freezer and heating units in the kitchen; use of disposable serving containers e.g. plates and cups. With the 2 heating units in operation it is possible to serve 2700 portions/h. JA

11 C 487

[Experiments on washing and disinfection of dishes in public catering.]
Horvath E.; Lakatos, M.
Elelmiszervizsgalati Közlemenyek 15 (1) 22-30 (1969) [9 ref. Hu, ru, de, en, fr] [Hajdu-Bihar megyei Köjal, Debrecen, Hungary]

The disinfecting efficiency of various chemicals was tested using 3-cm^2 pieces cut from conventional crockery and dishes (of pottery, hard plastics: "Nitaplast" and soft polyethylene). To simulate dishwashing effects, these samples were soaked on 10 days for 30 min daily, in water containing 10% milk and 2% edible oil, then infected by immersion for 10 min in a 1:1000 dilution of a 24 h bouillon culture of various micro-organisms (Escherichia coli, Shigella flexneri and Shig. sonnei, Salmonella typhimurium and Salm. infantis, Pseudomonas aeruginosa and Staphylcooccus aureus). After rinsing in a 2% Na_2CO_3 solution the pieces were treated for 2, 5 and 10 min with various disinfectants (0.1, 0.3, 0.5% 'Nitrogenol' solution, 1.2% solution of commercial sodium hypochlorite, 0.1, 0.3% 'Neomagnol' solution and 2% 'Lysoform' solution). The infected pieces were rinsed with sterile distilled water and the strains recovered after incubation for 24 h at 37°C were identified. Optimum effects were obtained (almost 100% sterility after 2 min exposure) with a 2% solution of commercial sodium hypochlorite. Soft polyethylene proved to be the least suitable dish material because it may retain some of the fatty substances to give a layer having a protective effect on bacteria. IF

VOLUME 2

01 D 26

Local Authority catering with frozen food.

Harris, R. D.; Noakes, K. W.

Royal Society of Health Journal 89 (5) 227-34 & 256 (1969) [En] [Central Purchasing and Supplies Department, City of Liverpool, England]

The City of Liverpool supplies an average of ~400 000 meals/wk throughout the year under its various commitments to schools, colleges, residential establishments, etc. Some of the results are presented of a pilot trial involving large-scale catering with frozen foods and details are given of frozen food composition, frozen food acceptability, (as measured by plate wastage), and of the costs involved, including some comparative cost data. Under the pilot trial, ~£18 000 has been saved on food costs alone during 12 months and considerable additional savings are anticipated on staff, equipment and fuel costs. Frozen food catering has been introduced successfully in establishments ranging from domestic-sized ones to kitchens catering for 3000 meals per day. It is confidently anticipated that frozen food catering will find increasingly widespread application. EJM

1 E 10

Cold and deep freeze problems in the hotel and tering trade.] Kühl- und Tiefkühlprobleme im Hotel- und Gaststättengewerbe.

iehner, G.

älte- und Klima-Rundschau 7 (3) 74-75 (1969) [De] Frigorex AG, Bürgenstrasse 36, Lucerne, Switzerland]

The Gastro-Norm cold- and deep freeze cabinets designed to take standard size trays 53 × 65 cm or 53 × 32.5 cm are described. The 4 types illustrated and their main characteristics include: cold cabinet MT-58, capacity 580 l., temp. 3-5°C, external dimensions 68 × 80 cm, 182 cm high; deep freeze cabinet UNT-540, capacity 540 l., freezing temp. -30° C, storage temp. -20°C, dimensions 76 × 87 cm, 183 cm high, inside dimensions 53 × 65 cm; gastro-Norm-Duo-cold and deep freeze cabinet MV-56; cold store capacity 370 l., temp. 3-5°C, 22 trays; deep freeze compartment capacity 185 l., temp. -18° to 20°C, 10 trays, exteonal dimensions 73 × 84 cm, 82 cm high; cold cabinet for use with trolley, MR-8, capacity 580 l., temp. 3-5°C, external dimensions 72 × 89 cm, height 183 cm, dimensions of trolley 55 × 65 cm, height 140 cm. All are automatically defrosted. RM

01 G 28

[Scientific fundamentals of soldier diets as an example of catering for large communities.] Wissenschaftliche Grundlagen der Soldatenernährung als Beispiel für die Verpflegung grosser Gemeinschaften.

Lauersen, F.

Ernährungs-Umschau 16 (5) 167-71; (8) 311-16 (1969) [De] [Bundesministerium für Verteidigung, 53 Bonn, Postfach 161, W. Germany]

A table indicating the contents of cal, fat, animal protein, vitamins A, B, and C of principal foods (expressed as % of the daily requirements) was used to plan adequate diets for ~360,000 W. German soldiers. The daily requirement was taken as 4000 cal, 135 g fat, 60 g protein, 5000 IU vitamin A, 2.5 mg vitamin B and 75 mg vitamin C. Foods used for preparing breakfast, lunch and supper were recorded daily on prescribed forms. In the 6 army districts, free choice was granted the army units in selecting the basic food types provided the diets met the daily requirements, and the expenses did not exceed the standard per capita rate of DM 2.90. Catering was controlled by checking ~8000 randomly selected diet record cards. The average lunch covered most of the daily requirement of vitamin C but only ~⅓ of the cal and fat requirement. If in public mass catering different levels of cal are to be offered, the best policy is to provide one type of lunch and 2 or more supper types of different cal, fat and vitamin B, contents. When only one meal (lunch) is given in public catering, it is advisable to prepare, besides a meal type of high nutritional value, another of lower level for sedentary workers. After receiving the prescribed daily diets 74% of German soldiers left the army at increased wt. after 18 months service. IF

2 E 70

Development in the frozen food industry.

Wainwright, E. A.

Food Trade Review 39 (10) 46-50 (1969) [En]

Improvements in the technology of frozen food production are considered with particular reference to vegetables (variety development), fish products (batter development), meat products (continuous moulding), and cakes and desserts (mousse and cream). The development of frozen prepared foods for the catering industry, e.g. the Top Tray system, with a range of 24 main meals plus a range of bulk sweets, is considered. VJG

2 G 47

Food fare in the air - 1970's.

Anon.

Food Processing 30 (10, Suppl.) 18F-21F (1969) [En]

A change in airline catering from loading warm food to reconstitution of chilled or frozen food in special ovens is forecast. Galley redesign is necessary for these ovens, but frozen individual portions in trays will reheat in 20 min. The use of sauces would add variety to these meals. The use of thermo trays which obviate reconstitution or heating and in which food may be held for 3 h is also being investigated. PEG

5 C 123

[Hygiene in mass catering establishments. Some aspects of the role of the veterinary inspector.]

Eeckhoutte, M.

Revue de Medecine Veterinaire 33 (1) 65-75 (1970) [Fr, en, de, es] [Ecole Nat. Veterinaire de Toulouse, Hygiene et Ind. des denrees d'origine animale, Toulouse, France]

Following a discussion of the increase in numbers of mass catering establishments, and legislation dealing with the hygiene of such establishments in France the following topics are considered, with special reference to mass catering: aetiology of food poisoning, which covers causative organisms (e.g. salmonellae, staphylococci, clostridia), clinical symptoms of food poisoning, modes of infection of food, and conditions which assist infection; prophylaxis of food poisoning, which discusses qualitative, sanitary and hygiene inspection of raw materials, food preparation areas, products and personnel; and what to do during a food poisoning outbreak. **IF**

6 G 229

Proceedings of Food Service Administration Seminar. [Conference proceedings]

Australia. New South Wales, Dietetic Association
Food and Nutrition Notes and Reviews 26 (11/12) 125-67 (1969) [21 ref. En]

Papers read at the seminar (which dealt with large-scale catering, especially in hospitals), held at the Women's Coll., Univ., Sydney, Australia, 27th-29th May 1969 are presented with discussions: 'A de-centralized system of meal distribution', by E. Thornburrow (pp. 125-26); 'The semi-centralized food service', by J. F. Rogers (pp. 126-28); 'Centralized tray service using hot pallets', by J. Winn (pp. 128-29); 'Some essentials of menu planning', by L. Nicolson (pp. 131-32); 'Ration scales in large quantity food services', by W. E. Badcock (pp. 133-34); 'Use of convenience foods available in the USA', by R. Kahn (pp. 135-36); 'Convenience foods available in Australia', by K. C. Richardson (pp. 136-39); 'Preparation centres for satellite food services', by F. K. Hodge (pp. 139-42); 'Microbiology and food disinfection', by K. A. Buckle (pp. 143-48, 8 ref.) ; 'Practical procedures in the prevention of food poisoning', by W. J. Madgwick (pp. 148-50); 'Do detergents deal with dirt?', by R. D. Wilson (pp. 150-52); 'Management communications', by E. J. Moran (pp. 152-53, 5 ref.); 'Effective allocation of administrative time', by R. Kahn (p. 154); 'Value analysis as related to labour utilization in food services', by J. Shannon (pp. 154-56); 'Evaluation of dietary treatment. The dietetic audit', by J. M. Woodhill (pp. 156-59, 8 ref.); 'Current practices in diet therapy service in Victoria', by C. N. Turner (pp. 159-61); 'Current practices in diet therapy service in NSW', by M. Hosking (pp. 161-64): 'Practical aspects of organizing the service of special diets', by E. Richardson (pp. 164-67). JA

8 F 455

Food-service packaging keeps pace with change.
Willett, R.
Food Engineering 42 (3) 135-36 (1970) [En] [Roslyn Willett Associates, New York City, New York, USA]

Packaging of food for restaurant and institutional use is discussed, covering packaging by number of portions rather than by wt.; use of the same container (or the fewest possible number) for storage, heating and serving, e.g. the standard 12 × 20 in Al steam table pan, in depths of $2\frac{1}{2}$, 4 and 6 in and in fractions of $\frac{1}{2}$, $\frac{1}{3}$ and $\frac{1}{4}$ pan sizes, or the newer 12 × 18 in pan (and in multiples of 6 in), which better fits the standard 18 × 26 sheet pan in ovens; location of storage as near final place of use as possible; portion packs for difficult-to-handle items; and the possible role of packaging in computerized warehousing and inventory control. AL

8 F 456

Aluminium trays spur food service growth.
Fredette, L. J.
Food Engineering 42 (3) 112-13 (1970) [En]
[Seabrook Farms, Seabrook, New Jersey, USA]

Heavy Al foil trays, in standard steam-table size and $\frac{1}{2}$-size, with rigid Al lids, are used to package more than 50 types of pre-cooked prepared frozen foods (e.g. beef, poultry, sea-food, vegetable and speciality dishes, entrees for school lunches). Foods can be packed, frozen, shipped, heated and served in the same container, hence permitting savings of labour, equipment and space, consistency of food quality and exact portion control planning. Reconstitution may be with wet or moist heat, in ovens or steamers. Trade has doubled since Al packaging for convenience foods was introduced 2 yr ago. AL

8 G 297

[Short-term cool storage of ready prepared meals.] Kurzfristige Kühllagerung von tischfertigen Speisen.
Zacharias, R.
Ernährungs-Umschau 17 (3) 92-97 (1970) [21 ref. De] [Bundesforschungsanstalt für Hauswirtschaft, 7 Stuttgart-Hohenheim, Garbenstrasse 13,W . Germany]

In order to improve food quality and work organization in large catering kitchens, shortened working periods of 7.45 to 12.00, and 14.00 to 16.00 h are suggested. Ready prepared meals are stored in refrigerators from 9.00 h onwards, and transported according torequirements (re-tested if necessary). For most meals 24 h storage at 2°C had no deleterious effects. Insignificant taste deterioration occurred in foods stored for 2 or 3 days. Cool-stored meals can be re-heated immediately before consumption. In spinach, total vitamin C content decreased by 8-23% during 1-3 days cold-storage but re-heating caused additional losses. Decreases of total vitamin C content after 3 days were 20% for peas, for salted boiled potatoes ~25% if freshly harvested and ~43% for 8 month old potatoes. Initial vitamin B_1 content in pea pulp (150 μg/100 g) did not decrease after 2 h at 70°C. Toxin-forming micro-organisms do not multiply at 2°C. Psychrophilic micro-organisms which grow even at 2°C are claimed to be present only in negligible numbers, and cause no spoilage in batches of ready prepared food. IF

9 C 200

[Evaluation of hygienic condition of large-scale kitchens.] Die Beurteilung der Küchenhygiene.
Knippenberger, H.
Archiv für Hygiene und Bakteriologie 153 (6) 514-31 (1969) [40 ref. De, en, fr, es] Hygiene-Inst., Unvi., Mainz, W. Germany]

Between Oct. 1964 and Aug. 1968, the hygienic condition of the kitchens of 8 large canteens and 1 hospital was evaluated, with particular reference to Escherichia coli and Staphylococcus aureus counts. The tests covered personnel, floors, working surfaces, tables and dish washing machines. Results are given in a series of tables. % of carriers of Staph. aureus was 14-19 in the canteens and 50% in the hospital kitchen. Tables showed high bacterial loads. HBr

9 G 339
Eating out trends.
Fuller, J.
Agriculture (London) 77 (4) 175-79 (1970) [9 ref. En] [Scottish Hotel School, Univ., Strathclyde, Scotland]

Eating out continues to grow steadily (catering trades turnover increased by 9% over previous yr). The author discusses factors of interest to the catering industry, including (i) trends in food chosen: (a) traditional British breakfast was chosen by ⅔ of tourists in hotels, whilst in households it is declining, (b) most frequently chosen items from menus, e.g. (in order of popularity) main course - meat, poultry, fish (including shellfish); vegetables (in addition to potatoes) - peas, Brussels sprouts, cauliflower, green beans; fruit salads, light desserts and cheese were more popular than cooked sweets and puddings, (c) the place of traditional and exotic (hard to prepare at home) food in restaurants, grill rooms, etc. (ii) factors which determine choice of eating place, (iii) the increasing use of convenience foods, due largely to staff shortages (probably more than 1/5 of food costs went on dried, canned, frozen and other convenience foods, compared with nearly ⅓ in households in 1967), and (iv) the need for more communication between all sectors of the food industry - farming, fishery, food manufacture, preservation and processing, cooking and catering equipment manufacture, and catering. AL

10 A 322
VIIIth International Congress of Nutrition, Abstracts of Papers. [Conference proceedings]
Masek, J. (Chairman)
1-74 (1969) [En, De, Fr & Ru]

Abstracts of papers presented at the VIIIth International Congress of Nutrition held in Prague from Aug. 28 - Sept. 5, 1969 include the following: [Vitamin value of millet (Pennisetum sp.) as a function of seed size], by J. Adrian & F. Samson (A4, Fr); Chemical and biological evaluation of Ethiopian food products and diets, by G. Agren & S. Lieden (A4-5, En); Effects of pesticides and mineral fertilizers on quality of foods produced in hot climates], by Sh. T. Atabaev, B. Kh. Magzumov & T. U. Tashbekov (A22, Ru); Some baked products as carriers of a cottonseed protein concentrate, by A. Bacigalupo & Z. Reynoso (B1-2, En); Advantages of scoring method when applied to evaluation of sanitary conditions of large-scale feeding establishments, by E. Baczynski (B2, En); Removal of toxic factors from rapeseed meal (Brassica napus), by D. Ballester, R. Rodrigo, J. Nakouzi, E. Yanez & F. Monckeberg (B8-9, En); Effect of level of feed intake on the performance and carcass composition of growing pigs of superior genetic quality, by R. S. Barber, R. Braude, K. G. Mitchell & R. J. Pittman (B10-11, coli in milk and milk products, by C. Bedo, V. En); Rapid methods for detecting Eschericia Losonczi, M. Horvath & A. Szollosi; A low-cost protein-rich biscuit, by A. E. Bender (B20-21, En); Vitamins of dry milk, by J. Blattna, J. Pickova & J. Cerna (B30-31, En); Electrophoretic and chromatographic study of the protein fraction of some Bulgarian spices, by N. Bonchev (B38, En); Some recent developments in the field of estimation of B-vitamins, by O. R. Braekkan & L. R. N. Jaa [L. R. Njaa] (B41, En); The Control of texture of fish sausages, by Z. Buraczewski & Z. E. Sikorski (B48, En); [Continued in following abstr.] VJG

10 A 323
VIIIth International Congress of Nutrition. Abstracts of Papers. [Conference proceedings]
Masek, J. (Chairman)
75-120 (1969) [En, De, Fr & Ru]

[See preceding abstr.] Determination of amino acids by liquid chromatography and by microbiological assays, by M. Burger (B49, En); Intensive beef production, by F. Buysse (B49-50, En); Tyramine determination in Italian cheese by gas liquid chromatography, thin layer chromatography and UV spectrophotometry, by E. Carnovale, A. Di Domenico, A. Fratoni & C. Lintas (C4-5, En); Effect of technology and cooking on pasta products unenriched and enriched with L-lysine, L-threonine and DL-methionine, by E. Carnovale, G. Fabriani, A. Fratoni & G. B. Quaglia (C5, En); Nutritional value of Lac-Tone vegetable toned milk, by M. R. Chandrasekhara, K. Indira, B. R. Ramanna, K. S. Jagannath & N. Leela (C13, En); Utilization of fish protein concentrate and sunflower meal as a base for low-cost high-protein foods, by C. O. Chichester, F. Monckeberg, D. Owen & I. Planella (C18, En); Essential amino acid contents of locally consumed vegetables, M. I. D. Chughtai (C20-21, En); Variation of the biological value of proteins in pasta products induced by various processing methods, by R. Cubadda. G. Fabriani & P. Resmini (C39, En); Influence of glyceride emulsifiers and starch damage factors on rheological properties of wheat flour, by J. Momirovic Culjat (C40, En); [Determination of glucose, fructose and sucrose in different fruits], D. Y. Dako, K. Trautner & J. C. Somogyi (D1, De); [Pressure cooking for institutionalized feeding], by V. Danailova, I. Stoyanov & I. Yurukov (D2, Ru);
] VIG

10 A 328
VIIIth International Congress of Nutrition. Abstracts of Papers. [Conference proceedings]
Masek, J. (Chairman)
484-567 (1969) [En, De, Fr & Ru]

[Meat aroma and natural maturing], by W. Rodel (R20, De); The development of a large-scale communal catering programme, by M. A. Ross (R28-29, En); Rapeseed oil processing and tocopherol content, by A. Rutkowski & L. Mzyk (R32, En); Nutritive value of buckwheat products and effects of roasting, by B. Secomska, I. Nadolna & M. Muszkatowa (S13-14, En);

Zinc concentrations in foods from southern United States, by E. Sense (S16, En); [Establishment of standards for pesticide residues in the USSR], by M. G. Shevchenko (S17, Ru); Foods with hormonal activites, by A. Sharaf (S19, En); Results of preliminary experiments on the effect of EDTA-compounds on the body, by J. Skorkowska-Zieleniewska, J. Bartnik & M. Mentel (S35, En); Investigation of cancerogenic polycyclic compounds in mineral oil derivatives coming into contact with foods, by K. Soos & V. Cieleszky (S45, En); [Preservation of meat and meat products in vacuum packs], by I. Stoyanov, M. Litvinenko, M. Radeva, D. Dinchev & B. Rizov (S52, Ru); [Efforts to establish international control of food additives since the middle of the last century], by B. Strahlmann (S55-56, De); Folic acid content of some food products, by A. Suckewer & A. Szczygiel (S60-61, En); [Antibiotic residues in foods], by A. Szakvary (S68, Fr); Some questions dealing with institutional and industrial catering, by M. Szczygiel (S69, En); VJG

10 M 921
[Technology of breadmaking and flour confectionery in public catering establishments.]
Tekhnologiya proizvodstva izdelii iz testa v obshchestvennom pitanii. [A book]
Koz'mina, E. P.
152pp. (1969) [19 ref. Ru] Moscow, USSR: Izdatel'stvo 'Ekonomika'. Price 0.39 Rouble

This illustrated book, intended for workers in public catering establishments, and also as a textbook, consists of a brief introduction and the following chapters: Raw material characteristics (pp. 6-24); Dough-making (pp. 25-31); Dough ripening and fermentation (pp. 31-44); Baking (pp. 44-58); Improvers of yeast bread and roll products (pp. 58-62); Technology of wheat flour dough-making (pp. 63-111); Preparation of fillings for flour confectionery (pp. 111-14); Preparation of different semi-manufactured products (pp. 114-19); Cake manufacture and decoration (pp. 119-22); Preparation of brand-name cakes (pp. 122-31); Mechanization of individual flour-confectionery processes (pp. 131-35); Storage conditions and shelf-life of flour products (p. 136); and Nutritive value of bread and flour confectionery (pp. 137-40). Analytical methods and recipes are presented in 4 appendices (pp. 141-48). SKK

12 E 543
Really big 'kitchen' operation.
Hayes, L.; Earls, C. D.
Food Engineering 42 (6) 71-74 (1970) [En] [Univ., Ann Arbor, Birmingham, Michigan, USA]

An 80 000 ft^2 plant provides 55 000 meals daily. Processing is co-ordinated with food service and a bakery produces 3500 loaves 8 h shift using a brew method. Surplus requirements are transferred to freezer storage. Meats are processed in 4 rooms which have mercury vapour lamps. Hamburgers are prepared from ground meats which are bucket elevated and discharged into an automatic patty former. Grocery products are purchased in bulk and stored 4 pallets high in a warehouse. 800 items are carried in stock. MHEG

12 H 1386
Refrigeration - from brewery to bar.
Anon.
Brewers' Guardian 99 (9) 51-52, 54, 56 & 58 (1970) [En]

Regrigeration equipment available for the brewery to cool yeast, hops and malt, and for processing; for cooling cellars and draught beers; for bottle cooling; and for the catering industry is described with the aid of photographs. PEG

VOLUME 3

2 U 131
The Food Hygiene (General) Regulations 1970.
United Kingdom, Ministry of Agriculture, Fisheries and Food
Statutory Instruments 1970 No. 1172 16pp. (1970)
[En] London, UK: H. M. Stationery Office. Price 2s

These regulations consolidate and amend the Food Hygiene (General) Regulations 1960 and 1962. Their principal requirements relate to: cleanliness of premises and ships used for purposes of a food business and the equipment; hygienic handling of food; cleanliness of persons engaged in handling of food and of their clothing, and action to be taken where they suffer from or are carriers of certain infections likely to cause food poisoning; construction of premises and ships used for purposes of a food business and their repair and maintenance; provision of water supply and washing facilities; proper disposal of waste material; and temp. at which certain foods are to be kept on catering premises. The principal changes from the requirements of the Food Hygiene (General) Regulations 1960 and 1962 are: raw food which has to be milled or refined is no longer outside the scope of the regulations; before food is offered for sale it must be separated from any food which is unfit for human consumption; animal feed must not be kept in a food room unless it is in a closed container; any person handling open food must wear clean overclothing, except in specified cases; and the business of packing or storing eggs, fruit or vegetables on farm premises is made subject to certain requirements. AS

3 E 124
[Warming cabinet for de-frosting and heating food products.] Wärmeschrank zum Auftauen und Erwärmen von Esswaren.
Strömquist, K. B. (AB Electrolux)
West German Patent Application 1 492 542 (1969)
[De]

A fan pushes air through a tunnel which is tapered towards its entry into the cabinet. Heating elements, which should be well spaced to ensure even heating of the air stream, are fitted at the entry. Guide faces in the cabinet distribute the air flow evenly across the surface of the product. A suction tunnel leads back to the fan for continuous air circulation. Application is to large-scale catering. W&Co

3 G 63
Proteins as human food. Proceedings of the Sixteenth Easter School in Agricultural Science, University of Nottingham, 1969. [Conference proceedings]
Lawrie, R. A. (Editor)
xvii+525pp. ISBN O 408 32000 1 & ISBN O 87055 091 8 (1970) [Numerous ref. En]

Intrinsic and extrinsic factors affecting the quality of fish, by G. H. O. Burgess & J. M. Shewan (pp. 186-99, 70 ref.); Properties of fish proteins, by J. J. Connell (pp. 200-12, 40 ref.); Milk and milk products, by J. A. B. Smith (pp. 213-24, 24 ref.); Eggs and poultry, by D. H. Shrimpton (pp. 225-41, 54 ref.); the influence of genetics and ecology of plant foods, by W. Schuphan (pp. 245-65, 41 ref.); Enrichment of plant protein by D. Rosenfield (pp. 266-79, 18 ref.); Structural and nutritional properties of cereal proteins, by N. L. Kent (pp. 280-99, 55 ref.); Baking: the significance of modern processing methods, by N. Chamberlain (pp. 300-13, 42 ref.); Hydrocarbon-grown yeasts in nutrition, by C. A. Shacklady (pp. 317-27, 14 ref.); Algal proteins and the human diet, by J. F. Gordon (pp. 328-45, 52 ref.); Soya protein isolates for food, by E. W. Meyer (pp. 346-62, 57 ref.); The organoleptic qualities of protein foods by D. A. Parry (pp. 365-87, numerous ref.). Protein problems of large scale catering, by E. Telford (pp. 388-99, 3 ref.); Regulatory mechanisms in mammalian protein metabolism, by H. N. Munro (pp. 403-16, 31 ref.); Effects of disproportionate amounts of amino acids, by A. E. Harper & N. J. Benevenga (pp. 417-47, 42 ref.); Procedures of protein evaluation, by D. Lewis & K. N. Boorman (pp. 448-57, 21 ref.); Abnormalities of protein metabolism, by N. A. J. Carson (pp. 458-73, 26 ref.). JA

3 G 91
A study of the development and evaluation of a new kitchen layout design technique.
Avery, A. C.
Dissertation Abstracts International. Section B. The Sciences and Engineering 30 (10) 4655: Order no. 70-6558 (1970) [En] [Univ., Columbia, Missouri, USA]

A new step-by-step design technique based on 8 requirements was devised and used to improve a hospital kitchen layout. The resulting plan reduced kitchen worker travel 49% vs. the architect's conventional plan and required less space. This design technique should help to reduce worker travel and feeding costs in institutional and commercial food services. SJR

4 C 62
[E. coli I and its significance in food hygiene investigations.] E. coli I. und ihre Bedeutung bei ernährungshygienischen Untersuchungen.
Hoch, V.
Zentralblatt für Bakteriologie, Parasitenkunde, Infektionskrankheiten und Hygiene, I. Originale 215 (1) 137-41 (1970) [4 ref. De] [Inst. für Ernährungswissenschaft, Budapest IX, Hungary]

661 samples (mainly swabs) obtained from a self-service restaurant (plastics dishes, cutlery, Al utensils, kitchen equipment, working surfaces, towels, hands of kitchen personnel, air, food) were examined for the presence of various micro-organisms. Escherichia coli was found in 37 samples, coliforms in 279, haemolytic Staphylococcus aureus in 44, micrococci in 341, fungi in 19, spore-formers in 395; 51 samples gave negative results. E. coli was found in 0.7% of samples from cutlery and plastics dishes, in 6.6% of samples from kitchen equipment and working surfaces, and in 11.6% of samples from hands. Results confirm that the presence of E. coli not

only serves as an indication of fresh faecal contamination of foods but also of contamination of equipment and personnel [See also FSTA (1970) 2 8C182.] MJS

4 C 63

[A study on so-called non-specific food poisoning outbreaks in Hungary.] Über sogenannte unspezifische Lebensmittelvergiftungen in Ungarn.

Ormay, L.; Novotny, T.

Zentralblatt für Bakteriologie, Parasitenkunde, Infektionskrankheiten und Hygiene, I. Originale 215 (1) 84-89 (1970) [3 ref. De, en] [Inst. für Ernährungswissenschaft, Budapest IX, Hungary]

Between 1960 and 1968, 20% of the food poisoning outbreaks in Hungary were caused by facultative pathogenic bacteria. These outbreaks were generally large and in some cases involved several hundred people. The facultative pathogens causing most non-specific outbreaks in this period were Bacillus cereus (46.2% of outbreaks), Pseudomonas aeruginosa (152.) and Proteus spp. (13.9). Meat dishes played a significant role as the vehicle of infection. Most outbreaks occurred as a result of poor hygiene and malpractices in mass catering establishments. MJS

4 G 121

Pre-cooked frozen food in hospital catering.

Glew, G.

Royal Society of Health Journal 90 (3) 139-42 & 149 (1970) [4 ref. En] [Catering Res. Unit, Dept. of Food and Leather Sci., Univ. Leeds, Yorkshire, UK]

A research unit at Leeds, England, set up to investigate new methods of hospital catering, has installed at the 100-bed Hospital for Women, Leeds, a catering system using food cooked in bulk, portioned, blast frozen and stored centrally. Patients choose their meals from a menu, the portions are transported to the ward, where they are re-heated in a forced air circulation oven and taken, waitress-style, to the patients. Advantages of the new system: improved nutritional value and palatability compared with conventional systems, availability of a wider range of dishes, and advantages arising from the divorce of production from consumption e.g. economies in use of labour and equipment. There seems to be no technical reason why production units should not be built with outputs of 100 000 meals/day. TW

4 S 452

Meat purchasing.

Wanderstock, J. J.

Cornell Hotel and Restaurant Administration Quarterly 11 (3) 60-64 (1970) [En] [School Hotel Administration, Cornell Univ., Ithaca, New York, USA]

Topics briefly considered are the establishment of menu requirements, inspection, grading, quality standards, brand names, specifications, ageing and ripening, and receiving and storage of meat. PEG

6 E 304

[Domestic refrigerators and cold storage units gaining popularity in Great Britain.]

Sorkin, A.

Tecnologia Alimentaria 4 (23) 4-8 (1970) [Es]

An illustrated review is given of developments in domestic, catering and retail units, mentioning the products of 6 British firms. ECA

6 E 305

The use of liquid nitrogen in the Cape Provincial Administrations Hospital Catering Service.

Forbes, 8. M.

South African Medical Journal 44 (15) 450-51 (1970) [En] [Hospital Dept., Cape Provincial Administration, R. of S. Africa]

The value of liquid N_2 freezing in a convenience food system supplying a completely prepared cooked and frozen meal requiring only an end heating process, is illustrated with reference to an expt. being conducted in hospitals in Cape Province. EJM

6 F 403

Packaging in the frozen foods industry.

Anon.

Packaging Review 91 (1) 43-44, 46 & 48 (1970/71) [En]

Requirements for a package for frozen food, types of carton, films and laminates, tubs and foil containers used, and trends in bulk foods for home freezers and centralized catering are generally considered. PEG

6 G 214

[Increasing centralization of the supply of ready-to-eat meals in Great Britain.]

Quest, M.

Tecnologia Alimentaria 4 (23) 9-11 (1970) [Es]

A brief illustrated review is given of developments in large-scale catering. ECA

7 G 246

Food preferences of hospital patients. [A review]

Glew, G.

Proceedings of the Nutrition Society 29 (2) 339-43 (1970) [5 ref. En] [Catering Res. Unit, Proctor Dept. of Food and Leather Sci., Univ., Leeds, UK]

The quality of hospital catering is discussed, with reference to surveys of the opinions and preferences of patients. Aspects considered include: loss of nutrients from food during preparation and distribution; popularity of different dishes; preferences for number and time of cooked meals; palatability of food; and age and sex differences in food preferences. AJDW

7 G 262

Food manufacture and the catering industry.

Glew, G.

Food Processing Industry 39 (468) 37-38 (1970) [2 ref. En] [Catering Res. Unit, Proctor Dept. of Food and Leather Sci., Univ., Leeds, Yorkshire, UK]

Changes in traditional catering practice and ways in which the manufacturer and caterer might co-operate to their mutual benefit, are considered. VJG

8 C 135

[Bacillus cereus contamination of foods and environment at institutional feeding points.]

Volkova, R. S.

Gigiena i Sanitariya 36 (2) 108-09 (1971) [5 ref, Ru] [II. Moskovskii Med. Inst, Imeni N. I. Pirogova, Moscow, USSR]

To determine the extent of B. cereus contamination of food at institutional feeding points (canteens, etc.), 620 samples of meat and meat products, 266 samples of vegetables and vegetable products, 138 samples of flour, synthetic cream and confectionery items, 121 samples of spices and various additives, and 1145 samples from the environment (mains water, air, dust, clothing, hand rinses, equipment, crockery, flies and insects, and human faeces) were analysed, using the Nikodemusz selective medium. Contamination of meat increased with each additional stage of processing of the raw meat; sausage products were particularly heavily contaminated. With vegetables, washing and cooking reduced the level of contamination. Finished confectionery items were more heavily contaminated than the original flour. Spices and condiments, particularly black pepper, were heavily contaminated. Flies were found to be a particularly likely source of contamination; only 1 of 283 persons examined had faecal contamination (10^2/g). HBr

8 E 404
Professional food preparation. [A book]
Terrell, M. E.
viii + 596pp. ISBN 0 471 85201 5 (1971) [Numerous ref. En] New York, USA: John Wiley & Sons Inc. [Univ., Seattle, Washington, USA]

This book is designed to serve as a text for students of large-quantity cooking. The principles are covered with a discussion of large-quantity methods and a description of the operation and care of equipment commonly used in large kitchens. The Subject is divided into 4 sections, each with its own bibliography and is covered under the headings: Organization of food production; Utensils and small equipment; Aspects with general application in food production; Vegetable processing equipment; Steam cooking equipment; Preparation of fruits and vegetables; Sauce preparation; Soup production; Pantry equipment - refrigeration equipment, work tables, slicing machine, and beverage equipment; Salads and salad dressings; Sandwich making; Meat preparation and cooking equipment; Dairy products and eggs; Poultry; Fish and shellfish; Selection and preparation of beef; Selection and preparation of veal; Selection and preparation of lamb; Pork and variety meats; Bakery equipment - mixer bun cutter, dough roller and sheeter, proof box; Bread making; Cakes and cookies; and Pastry fillings and puddings. Each chapter has a list of laboratory experience and review questions and answers. Appendices include: Equivalent measures of foods; Food quantities for 100 portions; Definition of terms in food preparation; and List of tables. A subject index is included. JN

9 F 680
Food service packaging, opportunities and challenges.
Willett, R.
Food Engineering 43 (3) 67-69 (1971) [En] [Roslyn Willett Associates, New York City, New York, USA]

A few brief comments are given on the future trends in the packaging of food for the fast food industry, school food service, take-out and take-home needs, commissaries and central kitchens, health care and day care centres. General trends in packaging are very briefly discussed. JN

9 U 644
[Equipment for sales and catering establishments. Terms and definitions.]
Union of Soviet Socialist Republics, Komitet Standartov, Mer i Izmeritel'nykh Priborov
Soviet Standard GOST 16318-70 10pp. (1970) [Ru]
[Moscow, USSR]

This standard, which came into force on July 1, 1971, gives 118 definitions of concepts or pieces of equipment involved in bulk catering or selling. These are divided under the headings: general concepts; boiling equipment; roasting/baking equipment; water heaters; food dispensing equipment; vending and money-changing machines; and equipment for mechanical processing of foods. HBr

10 E 487
Mobile feeding station stores, cooks complete individual frozen meals.
Anon.
Quick Frozen Foods 33 (6) 76 & 84 (1971) [En]
unit, known as the Magic Chef Mobile Feeding Unit,

This completely self-controlled and contained includes freezer (10 ft^3), refrigerator (10 ft^3), microwave oven, hot drink dispensers and serviceware. Frozen individually packaged complete meals, wrapped in foil trays are heated in moments in the microwave oven. A 15 gal stainless steel tank between freezer and refrigerator holds water for the drink dispensing systems (coffee, tea, or chocolate). Polypropylene plates, plastics forks, knives, spoons, salt, pepper, sugar and napkin are included with each meal. Magic Chef ensures customers a net profit of 35-50%. Breakfats retail for ~$1; dinners ~$1-3 and sandwiches ~$1-1.25. The newest markets for these mobile feeders are supermarkets and convenience stores. VJG

10 G 354
Food service in the 70's.
Kemp, G.
Food Processing Industry 39 (468) 39-41 (1970) [En] [Smethursts Foods Ltd., Station Avenue, Walton-on-Thames, Surrey, UK]

Food purchase by all catering outlets in the UK is in the range of £750-£850 million and is expected to grow to nearly £1000 million by 1972. The progressive movement towards 'system catering', the combination of work study, equipment, design and food into a total 'package' is stressed. The importance of frozen foods to the catering industry and the need for specialized equipment for catering purposes are discussed. The future of the catering industry is considered. VJG

10 G 371
[The 'Wagons-Lits' group and frozen dishes.]
Lavoissiere, P.
Industries Alimentaires et Agricoles 87 (9/10) 1191-1195 (1970) [Fr, en, de]

The 'Grill-Express' continuous self-service introduced by Wagon-Lits and based on cooked frozen dishes is described. Prepared in a central factory belonging to the group, the main dishes are stored in an uninterrupted cold chain and heated on the train by 2.5 kW magnetron ovens within 75-105 sec of selection. 1000 frozen dishes/day are manufactured at the group centre. Extension of the service to outside clients is considered. RM

10 G 403

Practical and nutritional aspects of the use of frozen meals in a meals-on-wheels service.

Gatherer, A.

Royal Society of Health Journal 91 (2) 83-87 (1971) [3 ref. En] [Med. Officer of Health, Reading, Berks, England]

A comparison was made between conventionally prepared meals and pre-packed individually frozen meals for use in the 'meals-on-wheels' service, following the introduction of the last-named method in the Reading area of England. Representative samples of both types of meal were compared for protein, fat, carbohydrate, calories, Ca, Fe and vitamin A, as well as for ascorbic acid and thiamine losses during distribution. The results, which are tabulated, indicated only minor differences as regards nutrient losses between the 2 types of meal. Frozen foods proved satisfactory both from the nutritional and the catering points of view. EJM

11 G 409

Catering problems with the workers of the big industrial units in the People's Republic of Bulgaria.

Chadzinikolov, C.

Excerpta Medica International Congress Series 1970 (213) 674-676 (1970) [En]

12 C 226

Catered convenience foods - production and distribution problems and microbiological standards.

Angelotti, R.

Journal of Milk and Food Technglogy 34 (5) 227-231 (1971) [En] [Div. of Microbiol., FDA, Washington, DC 20204, USA]

The incidence of food-borne disease in the USA is high, Clostridium perfringens, toxigenic staphylococci, salmonellae and shigellae being most commonly implicated as causative organisms. Poultry, beef, pork, bakery products and shellfish are among the products most frequently involved while most cases of mishandling occur at food service establishments or in homes. It is apparent that microbiological standards similar to those applied to factory processed foods are necessary for machine-vended, convenience and restaurant prepared foods. Microbiological surveys of such foods are being carried out by the FDA with the intention of establishing standards to be applied both by national and local food control agencies. Mould fragment count and bacterial count limits have been established for some foods and these are listed. The complete elimination of pathogens from foods is not possible and the importance of sanitation procedures is stressed. AHV

12 C 234

Isolation of Escherichia coli, Pseudomonas aeruginosa, and Klebsiella from food in hospitals, canteens, and schools.

Shooter, R. A.; Faiers, M. C.; Cooke, E. M.; Breaden, A. L.; O'Farrell, S. M.

Lancet 1971-II (7721) 390-392 (1971) [7 ref. En] [Dept. of Bact., St. Bartholmoew's Hospital, London EC1, UK]

Since faeces are thought to be a source of bacteria responsible for urinary tract and other infections, the origin of the faecal flora is of some importance. In order to examine the hypothesis that Gram-negative bacilli may be present in food in numbers sufficient to colonize the bowel, food in 8 hospitals, 11 canteens and 2 schools were examined for E. coli, Ps. aeruginosa, Klebsiella spp. and Proteus spp. Taps, sinks, washing-up water, slicing machines, etc. were also examined. Foods examined included salads, cold meat, cold sweets, hot food, pureed food and milk feeds. There was variation in isolation from place to place. Proteus was isolated from only one sample (cold meat). Contamination with one or more of the other organisms was found in all samples, salads being the most and hot food the least frequently contaminated. From the results it is concluded that there is a possibility that, from time to time, food might contain sufficient of these organisms to lead to establishment in the bowel. The origin of the bacteria in the canteens, etc. is thought to be incoming food such as meat. [See also **FSTA (1970) 2 8C188 & 11C242.**] PET

12 G 473

Hospital feeding: problems and proposals.

DeMarco, M. R.; Lovell, J. O.

Food Technology 25 (9) 910-912 (1971) [6 ref. En] [Metropolitan General Hospital, 3395 Scranton Road, Cleveland, Ohio 44109, USA]

Problems faced by hospital feeders in applying the food service system concept to their operations are discussed, and proposed solutions to some of the problems are given. Schematic diagrams of 3 new shapes of entree dishes for the packaging and serving of hospital meals are presented, and the authors call for an interchange of understandable information among the dietitian, nutritionist, hospital feeder, food processor, equipment manufacturer and packaging engineer. IFT

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See also back page

1 E 13

Micro-wave compatible food service products.

Daly, P. N.

Food Technology 25 (9) 918 & 921 (1971) [En] [Litton Ind., Atherton Div., 2530 N. 2nd St. Minneapolis, Minnesota 55411, USA]

The need for product reformulation; development of new food products and/or new packaging techniques; and modification of the microwave oven timer mechanism so that the power profile delivered by the oven meets the exact needs of the product and its container, are briefly discussed in relation to the increasing applications of microwave ovens in all types of food service operations. AB

1 E 34

[A new catering system using ready-to-eat dishes.]

Ein neuartiges Verpflegungssystem mit essfertigen Gerichten.

Solms, J.

Lebensmitel-Wissenschaft und Technologie 4 (4) 136-137 (1971) [De] [Eidgenössische Tech. Hochschule, Zurich, Switzerland]

A description is given of the Nacka-System, a boil-in-bag system successfully tested by the Zurich City Kitchen and by a number of firms in Sweden. 1-5 portions of a particular food (e.g. soup, meat, vegetable etc.) are packaged after cooking in plastics bags, which are evacuated, sealed, cooled in a tunnel to 4°C (taking ~3.5 h) and stored at 4°C before use. The system is considered particularly applicable to institutional catering. HBr

1 F 22

Doubled output, improved product quality and reduced labour costs at Stratford Canners.

Anon.

Food Trade Review 41 (5) 27-29 (1971) [En]

Layout and operation of Stratford-upon-Avon Canners' new factory are described. The plant is divided into 2 parts: 5 straight production lines for fruit and vegetable canning; and a section dealing with jam and confectionery products. The plant is being devoted initially to canning of vegetables for the catering industry. Vegetable canning, with particular reference to peas, is considered under the headings: blanching and cooling; filling and sealing; and sterilization and cooking. The automatic control system and its flexibility and efficiency, automatic loading and unloading of the horizontal cookers, and continuous quality control at the factory are also described. VJG

2 F 78

Packaging for catering.

Palling, S. J.

Packaging 42 (498) 55-56, 58 & 60 (1971) [En] [Corporate Marketing Div., Metal Box Co. Ltd., 37 Baker St., London, W1A 1AN, UK]

The size of the market for food packaging is discussed, new packaging techniques and material are broken down into 5 sections under the headings: convenience foods; frozen foods; automatic vending foods; foods by distribution methods (cash & carry and direct); and foods sold in catering systems. DBC

3 C 70

[Sanitary measures in the kitchen for preventing poisoning by foodstuffs.]

Borneff, J.

Rivista Italiana delle Sostanze Grasse 48 (8) 445-451 (1971) [31 ref. It, fr, es, en, de] [Ist. d'Igiene, Univ., Magonza, Italy]

The increase in recent years of the incidence of food-poisoning outbreaks caused by bacteria is briefly discussed and the need for stricter sanitary control in kitchens is emphasized. The sources of and reasons for bacterial contamination and growth in kitchens are covered in some detail, e.g. insufficient heating of food during cooking, poor storage conditions for food, employment of persons who are carriers of bacteria, low standards of hygiene and cleanliness in kitchens. Disinfection of equipment, working surfaces etc. is discussed and the importance of hygiene education for personnel pointed out. Results are presented of an experiment in which microbial counts were made of walls, floors, tables, etc. in a kitchen. LA

3 G 125

Systems widen institutional-food market.

Anon.

Modern Packaging 44 (9) 36-38 (1971) [En]

The potential growth of the institutional feeding market is discussed, particularly as applied to school lunches. At present only 6% of school meals in the USA are individually prepackaged; this offers considerable possibilities for a single portion institutional package, with concomitant reduction in labour and waste. Examples quoted are formed, expanded polystyrene or Al trays for hot foods, and clear formed polystyrene for cold foods. Hot meals can be reheated to the correct temp. in microwave or convection ovens, while empty trays can be returned to the supplier for disposal. RPC

3 G 144

[Individual fatty acid contents of lipids in canteen dinners.]

Ziombski, H.; Stobnicka-Szczyglowa, H.

Roczniki Panstwowego Zakladu Higieny 22 (5) 619-628 (1971) [19 ref. Pl, ru, en] [Inst. Zywnosci i Zyweinia, Warsaw, Poland]

4 D 188

An information system for the planning and control of a food service operation.

Wrisley, A. L.

Dissertation Abstracts International. Section B. The Sciences and Engineering 32 (4) 2268-2269: Order no. 71-25594 (1971) [En] [Univ., Amherst, Massachusetts, USA]

To design an economically viable computerized planning and control system, and develop a formula approach to forecasting the meal quirements of a commercial establishment, a od service operation model was constructed with enu, recipes and recipe ingredients. A year's eration was simulated on a CD 3600 computer order to test a forecasting algorithm based on e technique exponential smoothing. A mputerized information system which provides ily cost, purchase and inventory information was sted on the model. The forecasting algorithm as tested in 3 different demand functions: cycle, mp, ramp with step. Utilizing averages and ends over an initial yr, demand for the 2nd yr as tracked and total covers and menu items recast. Normal and uniform distributions were ed to generate the simulated demand. From sults of forecasts, expected covers were nverted into amounts of food required, and ojected sales, costs and variable margin were lculated. Purchases, issues and transfer data ere used to calculate actual daily food cost, which as compared with potential cost. It was ncluded that with some modifications the recasting algorithm could be used as a anagement tool, and the system could provide ily cost and purchase information, with resulting st savings. RM

E 132
ommercial freezing of food.] Gewerbliches
nfrosten von Lebensmitteln.
uckert, G.
ilte-Klima-Praktiker **11** (11) 342-344 (1971)
e]

Freezing of bakery products, dough, bread, and it, rationalization of production, inhibition of croorganisms and storage temp., freezer pacity and temp. ranges, air circulation, nstruction and use of freezers, and economics of eir use in hotels, canteens and hospitals are nerally discussed. OA

D 274
Frozen convenience foods for institutions; case resentation.] [A lecture]
kman, E.
emian Teollisuus **28** (11) 853-858 (1971) [Fi]
luhtamäki-yhtymä Oy Helsinki, Finland]

The development in Finland of frozen onvenience foods for institutional feeding is escribed, and the marketing method explained. K

D 275
hoosing from alternatives in expanding storage ace for frozen food.
londeau, L.; Donaldson David, B.
urnal of the American Dietetic Association **59**
) 362-367 (1971) [10 ref. En] [Food
dministration Lab., Dept. of Food Sci., Univ.,
adison, Wisconsin, USA]

The economic feasibility for a food service eration with limited on-premise storage facilities r frozen foods, to rent or buy additional storage space was investigated. A mathematical model was developed of the procurement function of the food service operation purchasing prepared frozen main dishes and renting additional storage space. This model was used to determine the effect on total procurement costs and space requirements of various food service policies. Total procurement cost of 50 prepared frozen entrees used during 1 yr in a hypothetical cafeteria with on-premise storage facilities for a 2-, 5-, and 7-day supply was computed. 9 purchasing policies varying in ordering frequency and purchasing quantities were tested and compared to purchasing for the on-premise storage limit. Results suggested that an expansion of storage space capacity for frozen food products was advisable. The greatest saving occurred when the prepared frozen main dishes were purchased at their economic order period. The cost of renting additional storage space was covered by the money saved when purchasing according to the lot size formula. VJG

5 G 239
Food buying guide for group feeding.
Rosario, T. B. del; Ramilla, E. M.
Philippine Journal of Nutrition **23** (4) 44-49
(1970) [10 ref. En] [Inst. Nutr. Branch, Med. &
Applied Nutr. Div., Food & Nutr. Res. Centre,
Herran-Taft Avenue, Manila, Philippines]

As a result of a survey made of 3 public markets and 2 local supermarkets, a food buying guide has been prepared showing purchase units of fresh fruits and vegetables, meat, fish, poultry and locally canned goods, approx. serving portions per purchase unit, size of serving portion and approx. number of purchase units needed for serving 25, 50 and 100 people in groups or institutions. PG

6 C 134
[Hygiene tests in community kitchens.]
Hygienetest in Gemeinschaftsküchen.
Lange, H.-J.; Bartels, R.
Zeitschrift für die Gesamte Hygiene und ihre Grenzgebiete **16** (10) 768-770 (1970) [12 ref.
De, ru, en] [Hygiene-Inst., Wernigerode, German
Democratic Republic]

The hygienic condition of 80 communal feeding establishments, mainly school and factory canteens and restaurants, was assessed by visual inspection and by standard bacteriological tests. Findings by the 2 methods did not correlate. SKK

7 C 154
[Hygiene in communal kitchens.] Zur Hygiene in
Gemeinschaftsküchen.
Felgenträger, H. J.
Zeitschrift für die Gesamte Hygiene und ihre Grenzgebiete **18** (2) 100-105 (1972) [35 ref. De,
ru] [Lehrstuhl Allgemeine und Kommunale
Hygiene am Hygiene-Inst. des Med. Bereiches der
Humboldt-Univ. zu Berlin, German Democratic

Republic]

206 communal kitchens employing a total of 875 personnel were examined within a 4-month period for level of hygiene; a standard questionnaire involving ~120 questions was used. Questions included numbers of persons using canteens, size of most kitchens, equipment available, personal hygiene facilities, ease of cleaning of rooms and training undergone by kitchen staff. It was observed that the standard of hygiene attained was generally higher, the larger the number of meals served. However, overall findings were unsatisfactory. IN

7 G 338

The challenge of catering to the food industry.
Ward, A. G.
Chemistry and Industry **1972** (5) 187-194 (1972) [9 ref. En] [Procter Dept. of Food and Leather Sci., Leeds Univ., UK]

Historical aspects of catering are outlined and advances, such as the introduction of pre-cooked frozen food for institutional catering, are discussed. Details are given of experimental studies into mass catering, undertaken in the hospital for Women in Leeds, and for a shool meals service in Leeds; a diagram of the blast freezers used in the hospital, for freezing meal components in Al trays, and a plan of the frozen food production unit for the school meals service, are included. AB

7 G 360

Proceedings of conference on the school tuckshop. [Conference proceedings]
Edwards, N. R. (**Australia**. National University, Centre for Continuing Education; **Australia**. Dietetic Association, ACT Inc.) (Chairman)
Food and Nutrition Notes and Reviews **29** (1/2) 1-32 (1972) [13 ref. En] [Advisory Services, Territorial Planning and ACT Education Services Branch, Dept. of Education and Sci., Phillip, ACT, Australia]

Papers presented at this conference, held at the Australian National University on the 16th Oct. 1971, were: A departmental look at school canteens, by N. R. Edwards (pp. 1-3); Canteen layouts and equipment, by J. E. E. Sharpe (pp. 4-9); hygiene in school tuckshops, by B. H. S. Dixon (pp. 9-11); Nutritive value of the school lunch, by W. E. Garran (pp. 11-15, 3 ref.); The school canteen and preventive dentistry, by G. C. Craig (pp. 16-18, 4 ref.); Food and equipment purchasing and food storage, by S. Tuff (pp. 19-24, 1 ref.); Canteen management, by E. Richardson (pp. 24-29, 5 ref.). Discussions on the papers are included. JA

7 H 1055

1972 guide to equipment, materials and services.
Anon.
World Coffee and Tea **12** (10) 7-10, 12, 14-16, 18, 20-21, 24-26, 28, 30, 32, 34, 36-39, 42-46, 48, 50, 53-54 & 56-72 (1972) [En]

A directory of the vast majority of coffee and tea products and services, and names, addresses and trade names of companies that supply them are given, including the following categories: roasting plant equipment; instant coffee/tea equipment; tea packing plant equipment; coffee/tea packaging equipment; coffee/tea packaging materials; coffee/tea public feeding equipment; coffee/tea services; producing country equipment and services - coffee; producing country equipment - tea; miscellaneous equipment; trade names' directory; company names' directory. RM

8 G 386

[Techniques for commercial institutional catering: automatic production of meals.] Technik der gewerblichen Gemeinschaftsverpflegung: Automatisierte Zubereitung von Fernverpflegung.
Herrmann, P.
Ernährungswirtschaft **19** (2) 122, 124 & 126 (1972) [De]

The use of automatic machines for institutional catering is discussed, with particular reference to the ovens. Advantages cited for automatic ovens are: heating commences just before distribution of the food; short waiting periods; high-grade heating; synchronized stages (e.g. portioning, delivery); low labour requirements. Disadvantages are cited as: limited selection; high capital investment for restricted usage; daily purchasing and preparation of raw materials. IN

9 G 426

Proceedings of the Symposium on Feeding the Military Man, October 20-22, 1969, US Army Natick Laboratories, Natick, Massachusetts. [A symposium]
Peterson, M. S. (**United States of America**, Army Natick Laboratories; **United States of America**, Research & Development Associates for Military Food & Packaging Systems Inc.; **United States of America**, National Academy of Science-National Research Council, Advisory Board on Military Personnel Supplies) (Editor)
Activities Report **22** (1) x+208pp. (1970) [Numerous ref. En]

The purpose of this symposium was to evaluate and review current and potential military, industrial and academic contributions and trends in food and container research and development for military uses. The symposium consisted of 5 main sessions: The military perspective (pp. 14-45); Food service and convenience foods (pp. 47-78); Storage and delivery (pp. 79-113); Sustaining the individual (pp. 115-156); and Quality evaluation (pp. 157-174), each session containing a number of papers. These include: Food research and development for the armed forces, by E. M. Mrak (pp. 1-14); The army perspective, by A. W. Betts (pp. 17-20); US Air Force food service programme - 1969, by A. A. Riemondy (pp. 21-26); The navy perspective on feeding the military man, by B. H. Bieri, Jr. (pp. 27-32); The Marine Corps perspective, by W. H.

Robinson, Jr. (pp. 33-45); Convenience food, by R. H. Jackson (pp. 50-54); The role of packaging, by R. C. Reed & R. C. Reichel (pp. 55-62, 18 ref.); Space food development: a review, by M. V. Klicka (pp. 63-78, 8 ref.); Minimizing deterioration of processed foods, by C. O. Chichester (pp. 81-85, 19 ref.); The contribution of packaging to the storage and delivery of foods, by F. W. Tauber (pp. 86-90); Delivery of fresh fruits and vegetables, by J. M. Harvey (pp. 91-98, 20 ref.); [Continued in following abstr.] JA

9 G 427

Proceedings of the Symposium on Feeding the Military Man, October 20-22, 1969, US Army Natick Laboratories, Natick, Massachusetts. [A symposium]

Peterson, M. S. (**United States of America**, Army Natick Laboratories; **United States of America**, Research & Development Associates for Military Food & Packaging Systems Inc.; **United States of America**, National Academy of Science-National Research Council, Advisory Board on Military Personnel Supplies) (Editor)

Activities Report **22** (1) x+208pp. (1970) [Numerous ref. En]

Minimizing weight and bulk, by M. C. Brockmann (pp. 99-104); Radiation update, by W. M. Urbain (pp. 105-113); Food preferences and attitudes, by D. R. Peryam (pp. 117-127, 3 ref.); Altering consumer attitudes, by J. E. Bradley (pp. 128-132); Safety and quality: microbiological, by B. C. Hobbs (pp. 148-156, 12 ref.); Methods of evaluation and standards for the appearance quality of food, by R. S. Hunter (pp. 159-166, 7 ref.); and Evaluation of texture, by B. Drake (pp. 167-174, 16 ref.). JA

9 G 445

[Food research at Lund.]

Thome, K. E.

Livsmedelsteknik **12** (4) 186-187 (1970) [Sv]

Food research projects being carried out at the Chemical Centre, University of Lund, Sweden, include: Effect of psychrophilic organisms on foods; Production of biomass for industrial purposes; Efficiency of automatic washing processes; Industrial catering (chemical and physical problems); Determination of colour and texture in starch and protein gels; Mechanism of foam formation; Membrane techniques (fractionation, separation); Structural function of protein in food; Changes in proteins on heating of food; Potential modification of starch from the food technology viewpoint; and Accelerated cheese ripening. HBr

9 G 456

Balanced nutrition through food processor practice of nutrification: model experience in school food service.

Lachance, P. A.; Moskowitz, R. B.; Winawer, H. H.

Food Technology **26** (6) 30, 32-34, 36 & 40 (1972) [8 ref. En] [Dept. of Food Sci., Rutgers Univ., New Brunswick, New Jersey 08903, USA]

With the cooperation of 80 food processors, Rutgers has demonstrated, on a model basis, that the nutritional effectiveness of school feeding programs can be enhanced. This is accomplished through attention to: child tested food acceptance: selected micronutrient additions (nutrification) vis-a-vis an RDA goal to promote nutritional balance within and between food products; and, increased convenience thorugh simplified food service techniques. AS

9 H 1486

How to brew coffee in restaurants and coffee houses.

Anon.

Indian Coffee **36** (6) 177-187 (1972) [En]

Directions are given for good coffee brewing including advice on cleaning the equipment, choice of grind and roast, methods and requirements of brewing, ratio of powder to water, proper extraction, nature of water and milk, keeping quality of brew and some common defects and their remedies. Information is also given on nutritive value and caffeine content of the beverage and on composition of coffee solids. Tables give information on some common sizes of filter, coffee making and efficiency of extraction at powder:water ratios of 1:6, 1:10 and 1:20, coffee making schedule (cost of making coffee containing 1.5 or 2.0 g solids/200 cm^3) and nutritive value of 3 cups/day. RM

10 C 244

[Entercocci recovered from crockery, kitchen utensils and working areas as indicators of kitchen sanitary quality.] Enterkokken an Kochgeschirren, Kochgeräten und Arbeitsflächen als Indikatoren der Küchen-Hygiene.

Janossy, G.

Zentralblatt für Bakteriologie, Parasitenkunde, Infektionskrankheiten und Hygiene, I. Abteilung, Originale, Serie B **155** (5/6) 526-530 (1972) [9 ref. De, en] [Inst. für Ernährungswissenschaft, Budapest, Hungary]

In the sanitary and microbiological supervision of a self-service restaurant and the attached kitchen, enterococci recovered from crockery, utensils and working areas have been used as indicators. A total of 410 samples was examined to evaluate the effectiveness of cleansing. 49.5% of the 210 kitchen samples and 11.5% of the 200 dining-hall samples gave positive results. Enterococci have been recovered equally from metal, wood, plastics, enamel and glass as well as textile surfaces. The use of enterococci as indicators of sanitary quality is strongly recommended in cases where kitchen disinfectants are employed. AS

12 B 112

Microbiology of foods and food processing. [A book]

Nickerson, J. T.; Sinskey, A. J.

x + 306pp. ISBN 0 444 00124 7 (1972)

[Numerous ref. En] New York, USA: American Elsevier Publishing Co. Inc. [Dept. of Nutr. & Food Sci., Massachusetts Inst. of Tech., Cambridge, USA]

This comprehensive book, which will be of interest to food manufacturers, caterers and studetns of food science, hotel management and home science, is aimed at providing an understanding of pertinent information concerning the microbiology of foods, food processing and food-borne diseases. Because of the wide area of subject matter covered, material which is interesting but not absolutely essential to the understanding of the various subjects has not been included. It contains general chapters, each with its own list of references, on methods of the microbiological examination of foods, destruction of bacteria by heat, microbiology of dried food, growth of microorganisms in foods at refrigerator temp. above freezing, chemical preservation of foods, food infections, food intoxications, and sanitation in food manufacturing plants and in preparation and serving establishments; there are also 3 chapters on specific groups of foods, namely flesh-type foods and eggs, fruit and vegetables, and dairy products. CDP

12 E 470

Integral heat system for volume food preparation.

Schukraft, B.

Food Technology **26** (9) 27-28 (1972) [En]

This article describes the use of an integral heating system at a New York hospital. The system, developed by the 3M Co. converts electric energy to heat through the use of thin-coat C composition resistors fused to the bottom of individual dishes which transmit the heat to the food they contain. This means the meals can be served in the same dishes in which they have been prepared. Advantages are as follows: "piping" hot food can be served; 24 chilled meals can be heated in 11 min in one oven, 20 min if frozen; 90% of the unit's heat energy is directed to the food, this means more efficient use of electric power and permits preparation of meals in less time; 1 or 24 different meals can be cooked at time; and it is easy to operate. AA

12 E 471

Monorail meals.

Walek, C.

Food Technology **26** (9) 30-31 & 34 (1972) [En]

[ARA Food Services Co., Independence Square West, Philadelphia, Pennsylvania 19106, USA]

An automated cart-transport system in operation at the St. Elizabeth Community Health Centre in Lincoln, Nebraska, is described. On-premises production, pre-plating, packaging, freezing and storage of menu items is carried out and the monorail system is one of the major cost and time-saving items in this total convenience food system. AA

12 F 582

Symposium: Packaging needs of the food service industry.

Brody, A. L. (Chairman)

Food Technology **26** (9) 42, 44, 46, 48, 50 & 52 (1972) [En]

Papers presented at the 32nd Annual Meeting of the Institute of Food Technologists in Minneapolis on May 21-25, 1972 include: Packaging for the hotel-restaurant-institutional operator, by R. F. Barratt; Packaging for health care,by E. L. Harder; Packaging of fast foods, by W. C. Hale; Satelliting food in bulk, by V. Ball; and Packaging for food service, by B. R. Lundquist. AA

12 F 593

Packaging for catering.

Nieboer, S. F. T.; Phelan, A. M.

Food Manufacture **47** (9) 35-36 (1972) [En]

A general description is given of packaging requirements for large-scale feeding, covering industrial and hospital catering, school meals, restaurants and hotels. Packaging aspects discussed include flexibles, boil-in-bag, and oven-ready packs (semi-rigids, plastics, foils and board composites). HBr

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1 G 60

Proceedings of the 26th Annual Meeting April 18-19, 1972. Theme: feeding the new military man. [Conference proceedings]

USA, Research & Development Associates for Military Food & Packaging Systems Inc.

Activities Report **24** (2) iii+184pp. (1972) [many ref. En] [Room 554, 90 Church Street, New York, New York 10007, USA]

The meeting consisted of 3 main sessions: Food service for the soldier (pp. 8-62); What's new in food items (pp. 63-80); and Foods of the future for the military system (pp. 81-167), each session containing a number of papers. Papers include: Navy food service - the future is now, by A. S. Davis (pp. 19-25); New food products for the military man, by L. Allen (pp. 26-28); Trends of tomorrow in the food industry, by W. G. Karnes (pp. 29-36); Quality assurance of military subsistence, by M. R. Seymour (pp. 37-40); A summary and update of the experiment in central preparation at Fort Lewis, Washington, by R. S. Smith (pp. 41-42); Heating foods in modified atmospheres, by V. E. Sweat (pp. 47-54); Prospectus: convenience produce, by W. C. Hale (pp. 63-69); What's new and what's coming - packaging, by D. G. Mueller (pp. 70-73); Starch thickeners for today's needs, by R. R. Martin (pp. 74-76); Protein sources of the future - single cell, by B. Wolnak (pp. 104-124); Structured foods, by V. K. Wipf (pp. 125-131, 13 ref.); Role of the university in military feeding, by J. H. Mitchell Jr. (pp. 154-167, 27 ref.); Frozen beef menu items - a progress report, by W. M. Urbain (pp. 169-172); and Standards & controls for central food processing, by E. F. Caldwell (pp. 173-181, 10 ref.). JA

1 G 61

Feasibility of on-premise production of frozen entrees under institutional conditions.

Rappole, C. L.

1143bc **33** (1) 258-259: Order no. 72-18 570 (1972) [En] [Cornell Univ., Ithaca, New York, USA]

An institutional catering project involving on-premise production of frozen entrees is described. Microbiological tests showed that hygienic products could be produced, provided handling and packaging were carried out correctly. Time-temp. studies showed no microbiological problems in freezing or reconstitution. Consumer questionnaires and taste panel tests indicated that the frozen entrees compared well with non-frozen products. Advantages include lower costs, minimal leftovers, improved accuracy of forecasting and improved menu variety; disadvantages include high capital investment and problems of portion and inventory control. AJDW

2 E 35

[Quick freezing of ready-made meals for catering.]

Becsy, M.

Elelmezesi Ipar **26** (10) 293-298 (1972) [Hu, ru, de, en]

2 E 43

[Research into cooking: A seminarium held on April 16th, 1970.]

Sweden, Svenska Institutet för Konserveringsforskning

SIK Rapport **275**, 117pp. (1970) [Sv]

Papers given at the Seminarium included: Is research into cooking needed, by H. Carlheim-Gyllensköld (pp. 1-27); Important data for researchers into the cooking process, by N. Bengtsson (pp. 28-40); Problems in industrial catering, by U. Brasen (pp. 41-49); Development and testing of equipment, by P. Skröder (pp. 50-53); Basis for the development of catering equipment, by L. Wigsten (pp. 54-56); Effects of roasting on fat and foods, by L. Fredholm (pp. 57-75); Uptake and rendering of fat during the cooking of some foods, by M. Thorell (pp. 76-81); Formation of a hard skin on cooked, commercially peeled potatoes, by A Liljemark (pp. 82-88); Comparison between fresh and cold-stored prepared foods, by B. Jakobsson (pp. 89-95); Instrumental techniques for determination of taste and aroma, by T. Persson (pp. 86-103); and Changes in nutritive value of foods on cooking, by M. Neymark (pp. 104-117, 14 ref.). HBr

3 C 61

Food sanitation. [Book]

Guthrie, R. K.

247pp. (1972) [Numerous ref. En] Westport, Connecticut, USA, AVI Publishing Co. Inc. price $15.00 (US) $16.00 (Foreign) [Clemson Univ., S. Carolina, USA]

This book for food industry workers and laymen, concerns the role of biology, especially microbiology, and air, land and water pollution in food supply sanitation for protection of public health. The subject is covered under the chapter headings: Sanitary science, by R. K. Guthrie (pp. 1-16, 6 ref.); Microorganisms and man, by R. K. Guthrie (pp. 17-35, 5 ref.); Microorganisms important to food sanitation, by R. K. Guthrie (pp. 36-60, 9 ref.); Control of microorganisms (pp. 61-87, 6 ref.); Chemicals and food, by R. K. Guthrie (pp. 88-93, 3 ref.); Water and sanitation in food industries, by R. K. Guthrie (pp. 94-103, 6 ref.); Wastes and sanitation, by R. K. Guthrie (pp. 104-111, 6 ref.); Sanitation in food production and processing, by R. K. Guthrie (pp. 112-129, 7 ref.); Sanitation in dairy food plants, by W. J. Harper (pp. 130-160, 4 ref.); Maintaining sanitary conditions in food canning plants, by G. V. Brauner (pp. 161-173, 7 ref.); Sanitation in food preparation and service, by R. K. Guthrie (pp. 174-200, 5 ref.); Sanitation of food preparation and service equipment, by F. D. Borsenik (pp. 201-214, 14 ref.). The appendix includes: Glossary (pp. 215-216); Some common infectious diseases (pp. 217-229); Selected representative laws, codes, and ordinances governing food industries (pp. 230-241), and Recommended health codes (pp. 241-242). A 5-pp subject index is included. JN

3 G 118

Menu planning by computer: the random approach to planning for consumer acceptability and nutritional needs.

Eckstein, E. F.

Dissertation Abstracts International, B **30** (6) 2773: Order No. 69-21 122 (1969) [En] [Kansas St. Univ., Manhattan, 66502, USA]

A generalized computer programme was used to plan 210 dinner menus for college residence halls. Item selection criteria emphasized consumer needs in terms of cost, general over-all meal acceptability as defined by colour, texture, shape, flavour, variety and item acceptability, and nutritional requirements. Menus planned by computer reflected satisfactory programme control. Meat quality was controlled by meat cost. Colour, texture, shape and flavour controls insured diversity and contrast. Repetition of a menu item, e.g. chocolate or tomatoes, was controlled within the meal, day and menu planning period; selection of more than one item with a low acceptability rating was prevented. Mean nutritive content was consistently adequate; additional controls were required to prevent excessive content of vitamin A and ascorbic acid. It was concluded that programme constraints satisfactorily controlled item selection in accordance with cost, acceptability, and nutritional requirements. **AA**

3 G 119

[Pasteurized meat dishes in foil containers for institutional catering. II. Manufacture of ready to eat meals and their stability during storage.] In Folienbehältnissen pasteurisierte Fleischfertiggerichte für die Gemeinschaftsverpflegung. II. Herstellung und Lagerstabilität der Fertiggerichte.

Tändler, K.

Fleischwirtschaft **52** (9) 1105, 1106, 1108, 1111-1113 (1972) [22 ref. De, en, fr] [Bundesanstalt für Fleischforschung, 8650 Kulmbach, Federal Republic of Germany]

The requirements of different types of catering institutions for complete, partial and supplementary meals are discussed. Recommendations are made on: planned production (to order); selection of dishes; raw materials and spices; where necessary, separate packing of meal, sauce and vegetables; cold storage for max. 2 wk optimum 1 wk; labelling; hygienic controls including temp. control at various stages; core temp. and tightness of seal of packages; bacteriological control. [See FSTA (1972) 4 11S1471 for part I.] **RM**

4 G 203

Freezermeals.

Glew, G.

Nutrition and Food Science No. 23, 4-5 (1971) [En] [Procter Dept. of Food and Leather Sci., Univ., Leeds, UK]

Problems of preparing meals in schools and the loss of nutritive value and palatability when hot cooked foods are transported to schools from central kitchens are considered. A description is given of a system whereby all cooked items are produced in a central production unit; they are then frozen in a blast freezer, stored until required, transported in the frozen state to the place where they are to be consumed and then reheated in forced convection ovens. **AA**

5 G 268

Convenience and fast food handbook. [Book]

Thorner, M. E.

vii+358pp. ISBN 0 87055 134 5 (1973) [many ref. En] Westport, Connecticut, USA, AVI Publishing Co. Inc. Price $20.00 (US) $21.00 (Foreign) [Culinary Inst. of America, Hyde Park, New York, USA]

This book, which is intended to be a primer, on the use of equipment and its effects on foods, handling and preservation, is divided into 2 sections: The fast food preparation centre (pp. 15-148) and Control, evaluation and handling of efficiency foods (pp. 149-345). The following chapters are included: History and concepts (pp. 1-13, 12 ref.); Preparation systems (pp. 14-28, 9 ref.); Storage areas (pp. 29-56, 15 ref.); The production area (pp. 57-101, 20 ref.); Microwave cookery (pp. 102-132, 8 ref.); Deep frying (pp. 133-148, 9 ref.); Quality control (pp. 149-218, 26 ref.); Concepts of efficiency foods (pp. 219-261, 37 ref.); Convenience foods (pp. 262-329, 32 ref.); and Convenience desserts and beverages (pp. 330-345, 14 ref.). **VJG**

5 P 564

[A study on the nutritional control of mass feeding. III. Vitamin B_1 content and bacterial counts of meals served in textile industries in the Bisai Health Center district (Aichi Prefecture).]

Niwa, S.; Goto, F.; Katayama, N.; Miki, T.; Ginbo, Y.; Fukuda, T.

Japanese Journal of Nutrition [Eiyogaku Zasshi] **27** (4) 160-163 (1969) [5 ref. Ja, en] [Suzuka Junior Coll., Japan]

3 investigations were conducted (Aug. 28, 1965, Nov. 30, 1965 and Feb. 1966) at 10 meal service institutions belonging to textile industries. They were selected from industries in the Bisai Health Center district, a central district of minor textile enterprises in Japan. Vitamin B_1 content and bacterial counts of cooked breakfast rice were examined immediately after it was served. In summer bacterial counts of 28×10^2 - 46×10^6 were found in contrast to those of the winter 30×10 - 33×10^4. The results show that the rice is liable to spoil in the summer. At 6 institutions sufficient vitamin B_1 was supplied (1.15-5.55 µg/g rice), however 4 institutions served rice containing about 0.11 µg/g of vitamin B_1 in all seasons. This value does not satisfy the standard requirement of vitamin B_1. [See preceding abstr.] **AS**

6 A 282

Computer-managed subsistence system.
Snyder, O. P., Jr.
Food Technology **27** (3) 42, 44, 46, 48 (1973) [En] [School of Management Information Systems, US Army Logistics Management Center, Fort Lee, Virginia 23801, USA]

The author discusses a model feeding system of the future and shows how a computer can be used to provide information on total systems performance in order to optimize the nutritional profile of the military consumer. IFT

6 G 305

[Conference of the Northern Working Group of the Food Chemistry Section of the Chemical Society in the German Democratic Republic.] Tagung des Arbeitskreises 'Nord' des Fachverbandes Lebensmittelchemie der Chemischen Gesellschaft in der DDR.
German Democratic Republic, Chemische Gesellschaft
Mitteilungsblatt der GDCh-Fachgruppe Lebensmittelchemie und Gerichtliche Chemie **24** (7) 129-136 (1970) [De]

Resumes are given of papers delivered at the Conference, held in Kühlungsborn in April 1970, and include: Determination and hygienic evaluation of surface active agents on items in contact with food, by B. Trost & W. Raffke; Industrial contamination of foods with carcinogenic hydrocarbons, by R. Engst & W. Fritz; Determination of N-nitrosamines in air and in food, by U. Freimuth & E. Gläser; Refractometric determination of fat in vegetable material, by K. S. Grunert, J. Borgwardt, U. Hentrich & C. Franzke (3 ref.); Microbial surface contamination of equipment used for institutional catering, by H. Keppler; Microbial nitrite formation in raw spinach and the subsequent lessons for agriculture and the food industry, by H. Hawat & M. K. Achtzehn; Problems of chemical processing of peeled potatoes, by W. Kerstan (2 ref.); TLC determination of thiuram on lettuce and establishment of the active time, by P. Lohs & H. Wetzel (2 ref.); and Experience with the control of frozen, table-ready meals, by J. Martinius. HBr

6 U 413

Food labeling.
USA, Food & Drug Administration
Federal Register **38** (49, Mar. 14) 6950-75 (1973) [En] [Washington, DC]

New food labeling requirements under the Federal Food, Drug and Cosmetic Act are given, including: minor revisions in nutrition labeling requirements; and labeling of fat and fatty acid, and cholesterol content; establishing common or usual names for nostandardized foods including seafood cocktails, Greenland turbot, crabmeat, and bonito; diluted orange juice beverages must contain a statement of the % orange juice on the basis of equivalent single strength juice of 11.8% orange juice soluble solids in multiples of 5%; and nutritional quality guidelines for frozen "heat and serve" dinner. The latter food must contain (1~ a protein source from meat, poultry, fish, cheese, or eggs, (2) vegetables or mixtures other than potatoes, rice, or cereal based product, and (3) another vegetable or potatoes, rice, and cereal based product. The min. nutrient levels are (for each 100 kcal. and for the total): protein, 4.6, 16.0 g; vitamin A, 150, 520 IU; thiamin, 0.05, 0.2 mg; riboflavin, 0.06, 0.2; niacin, 0.99, 3.4; pantothenic acid, 0.32, 1.1; vitamin B_6, 0.15, 0.5; vitamin B_{12}, 0.33, 1.1 μg; and iron, 0.62, 2.2 mg. When technologically practical, iodized salt shall be used or an equivalent amount of I should be present and ingredients should be selected to provide a desirable Ca:P ratio of 1:1, minimizing the addition of phosphates. CAS

7 G 345

[Refrigeration techniques and modern food distribution in hospitals.] [Lecture]
Root, M. J. M. van 't
Koeltechniek-Klimaatregeling **65** (9) 158-162 (1972) [6 ref. Nl] [Tech. Staf Grenco NV, 's-Hertogenbosch, The Netherlands]

This review-type article covers food cooling and cooling systems, with particular reference to microbiological activity; freezing and use of frozen foods; and costs. Advantages and disandvantages of these aspects for institutionalized (hospital) catering are discussed. HBr

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7 G 382

The Skylab program.
USA, Research Development Associates for Military Food & Packaging Systems Inc.
Activities Report **25** (1) 100pp. (1973) [many ref. En] [Room 554, 90 Church Street, New York, New York 10007, USA]

This report of the Research and Development Associates for Military Food and Packaging Systems Inc. Fall Meeting, held on 10-11 Oct. 1972 at the US Army Natick Laboratories, is divided into 4 sessions each containing several papers. Sessions are: The Skylab program (pp. 1-39); Why research and development in the military subsistence system? (pp. 40-47); Food and packaging reports (pp. 48-87); and Nutrition and the armed forces (pp. 88-100). Individual papers include: Incorporation of nutritional therapy in space food systems, by N. D. Heidelbaugh, P. C. Rambaut & M. C. Smith (pp. 7-32); Skylab food system project: Support and management, by W. H. Bush (pp. 33-39); Radiation preservation of food: past, present, and future, by E. S. Josephson & E. Wierbicki (pp. 48-59); Moisture and food characteristics, by J. G. Kapsalis (pp. 60-69, 9 ref.); Intermediate moisture foods, by M. C. Brockmann (pp. 70-77, 22 ref.); and Tray packs for thermally processed foods, by J. W. Szczeblowski (pp. 77-84, 3 ref). JA

8 A 370
Guide to foodservice management. [Book]
Wilkinson, J. (Editor)
v+184pp. ISBN 0 8436 0554 5 (1972) [many ref. En] Illinois, USA, Institutions/Volume Feeding Magazine. Price $9.50

This collection of articles from publications of the National Association of College and University Food Services consists of the following: Let's put management into focus, by R. Rogers (pp. 1-4); Performance standards - management tool, by R. Guyon (pp. 5-10); Making middle management effective, by G. D. Smith (pp. 11-13); Management training programs, by W. T. Umbreit (pp. 14-21); Key to management meeting success, by R. D. Buchanan (pp. 22-34); Communication, by R. D. Buchanan (pp. 35-42); There's profit in listening, by R. P. Smith (pp. 43-45); Evaluation as a forecasting tool, by W. K. Miller (pp. 46-48); What can the computer do?, by G. Tavis (pp. 49-52); Computer-assisted menus, by S. Levy (pp. 53-68); Computer programs that work, by T. P. Root (pp. 69-72); Tests for food management contracts, by T. W. Minah (pp. 73-79); Creating a successful foodservice, by J. C. Birchfield (pp. 80-84); The future of prepared foods, by H. Zaccarelli (pp. 85-88); Convenience foodservice systems, by R. D. Buchanan (pp. 89-96b); Industrial engineering principles sharpen foodservice design, layout, by S. C. Prokosch (pp. 97-108); Equipment + design = = foodservice efficiency, by J. C. Friese (pp. 109-112); Why do they eat when they do? by S. Haack (pp. 113-119); Implementing continuous meal service, by D. P. Alfonso, J. C. Miller & J. C. Friese (pp. 120-122). (Continued in following abstr.) **JN**

8 A 399
Getting the most out of food. The seventh in a series of studies on the modern approach to feeding and nutrition. [Book]
Van den Berghs Ltd.
95pp. (1972) [many ref. En] London, UK, Van den Berghs Ltd.

Three award-winning entries for the Van den Berghs 1971 Nutrition Award reprinted here are: Congenital malnutrition, by R. J. C. Stewart (pp. 15-35, 48 ref.); The causes of vitamin D deficiency in Britain - a critical review, by C. R. Paterson (pp. 37-62, 94 ref.); Enzyme reactivation studies - a new tool for the assessment of vitamin status, by J. K. Howard (pp. 63-80, 31 ref.). A paper on 'School catering and convenience foods', by H. W. M. Weeden (pp. 81-91) is also presented. **JN**

8 C 246
[Hygiene of kitchens and milk kitchens in hospitals.]
Küchen- und Milchküchenhygiene in Krankenanstalten.
Thiel, W.
Archiv für Lebensmittelhygiene **24** (2) 44-47 (1973) [many ref. De, en] [St. Veterinäruntersuchungsamt, Krefeld, Federal Republic of Germany]

Hospital kitchens, usually defective in lay-out in the older institutions, are still liable to be planned and constructed without adequate appreciation of the importance of hygiene. Some common inadequacies of construction and practice are discussed and a list of minimal requirements, basically similar for the kitchens of general hospitals and the milk-kitchens of childrens' and maternity hospitals, is set out. Legislatively prescribed minimal standard are required to ensure the provision of hygienic safeguards. **GTP**

8 E 254
Why blast freeze?
Taylor, D. G.
Industrial & Welfare Catering **4** (5) 3, 5, 7, 9 (1973) [En]

The development, theory and practice of blast-freezing, particularly in relation to the catering industry, are discussed. **JN**

8 E 259
Catering in the technological age.
Pyke, M.
Industrial & Welfare Catering **4** (5) 11, 13, 15, 17 (1973) [En] [Glenochil Res. Sta., Distillers Co. Ltd., UK]

Some comments are given on possible progress in catering technology under the headings: ovens; continuous processes in the kitchen; assembly and distribution of meals; cook-freeze system; and vending machines. Progress in food technology is also briefly mentioned, including liquid N_2 freezing, dehydration, and canning. **JN**

10 G 513
Feeding children through USDA programs.
Rosenfield, D.
Food Technology **27** (8) 36-38 (1973) [En] [Miles Lab. Inc., 1127 Myrtle St., Elkhart, Indiana 46514, USA]

The USDA School Lunch Program, School Breakfast Program, and Special Food Service Program are described and the role of new foods and food service concepts in overcoming some of the problems involved in child feeding programmes is discussed. **IFT**

10 G 514
On-site preparation provides school feeding flexibility.
Searing, O. L.
Food Technology **27** (8) 40, 44-45 (1973) [En] [School Food Service Dept., 1320 S.W. 4th St., Fort Lauderdale, Florida 33312, USA]

An explanation is given of why Broward County (Florida) School Food Service Department prefers on-site preparation of food rather than satelliting in bulk from a central kitchen. Included in the reasons are fewer problems with transportation, increased use of school facilities, and greater flexibility for future needs. **IFT**

11 C 288

Quality assurance system for a fast food service chain.

Kubu, S.

Food Technology **27** (8) 30, 32-33 (1973) [En] [Burger King Corp., PO Box 338, Kendall Branch, Miami, Florida 33156, USA]

System for food safety and quality assurance developed and implemented for Burger King Corp. is described. Scope of the system includes monitoring operations of approx. 1000 restaurants, both company owned and franchise operated, inspection of facilities of approx. 800 suppliers and distributors of food products used in the restaurants, and presentations of training sessions for approx. 2500 supervisors annually. IFT

11 E 354

Why blast freeze? II & III.

Taylor, D. G.

Industrial & Welfare Catering **4** (7) 11, 13; (8) 25, 29 (1973) [En] [Electricity Council Res. Centre, Capenhurst, UK]

The 'Cook-Freeze' catering system, developed by the Electricity Council Research Centre, is described with reference to cooking equipment required and the need for high standards of food handling, freezing and storage practice. [For part I see FSTA **5** (1973) 8E254.] AA

11 E 355

Catering at Keele gets a boost from cook-freeze.

Lask, J.

Industrial & Welfare Catering **4** (9) 3-4, 7 (1973) [En]

The operation of the 'Cook-Freeze' system [see preceding abstr.] for catering at the University of Keele is described. The project is proving to be very successful, the food is considered to look and taste better, and rigid portion and quality control has led to a considerable cost saving in the use of raw food materials. AA

11 E 371

Cook/freeze system catering for hospitals.

Anon.

Industrial & Welfare Catering **4** (9) 9, 11 (1973) [En]

The use of foil containers for food undergoing blast freezing and long storage, is considered. Many catering establishments (especially hospitals), are changing over to advanced catering systems which are based on the centralized preparation of meal portions, deep frozen and stored in bulk for subsequent distribution to satellite serving areas as required. Formed foil containers play a vital part in these new meal systems, for hygienic reasons, and because they can go through the whole cycle from blast freezing to reheating without coming to harm or affecting the quality of the food. AA

11 E 412

Use of refrigeration in food distribution systems in hospitals.

Root, M. J. M. van't

Proceedings of the International Congress of Refrigeration (13th Washington) **3**, 359-364 (1971, publ. 1973) [6 ref. En, fr] [Grenco NV, 's-Hertogenbosch, Netherlands]

The use of refrigeration enables time of meal production to be independent of time of consumption. Details are given of a system suitable for use in hospitals, whereby if food is handled and cooled properly it can be prepared 3 days before it is to be reheated and consumed. This food is shown to meet the most strict standards of hygiene, nutritional value and palatability. AA

11 E 414

[Thawing and reheating of frozen prepared dishes for communal feeding.]

Dumas, S.

Revue Generale du Froid **64** (6) 577-583 (1972) [13 ref. Fr]

Systematic studies were conducted on thawing and reheating frozen prepared dishes by forced convection (FC), IR and microwave (MW) ovens with individually packed 300 g samples of potato puree in polypropylene impregnated cardboard dishes. Times required for reheating (min) were: FC 30-35, IR 35-45, MW 3-6; energy consumption (Wh/kg) was 260, 450 and 440-580; mean cost (with energy at 0.20 francs)/kg 0.15, 0.25 and 0.27-0.65. All 3 methods produced acceptable results. FC ovens required min. supervision and training of operators, MW ovens needed specially trained operators and careful maintenance. Suggestions are made for the most suitable types of equipment for various establishments. RM

11 G 529

Success in specialties.

Henke, D. E.

Food Engineering **45** (6) 120, 122, 126 (1973) [En]

The production of piroghis, lasagna, meat balls, hot sausage, cavatelli, gnocchi, egg noodles, spaghetti sauce and ravioli at Silver Maple Foods, New Castle, Pennsylvania is discussed with special reference to the custom-designed machinery used. AA

11 N 609

[Problems of fried foods in the convenience food industry.]

Oota, S.

Up-to-Date Food Processing [Shokuhin Kaihatsu] **8** (4) 37-42 (1973) [7 ref. Ja] [Ajinomoto Co., Tokyo, Japan]

Topics covered include the type and quantity of frying oils to be used, changes in temp. during frying, changes of the frying oil during heating, and polymerisation of fats. SKa

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Some of the larger FABs have been divided into sections to facilitate use. Abstracts are not printed in more than one section. The larger FABs also have subject indexes provided.

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J. NEWTON,
ASSISTANT EDITOR

1

Commodities worth $300 million available to processors for school sales.
Andres, C.
Food Processing **34** (9) 18-20 (1973) [En]

Details are given of the programme operating in the USA whereby food processors use State-donated foods in the manufacture of completed items for sale to schools and certain institutions. AA

2

Skylab menu development.
Stadler, C. R.; Sanford, D. D.; Reid, J. M.; Heidelbaugh, N. D.
Journal of the American Dietetic Association **62** (4) 390-393 (1973) [En] [Technology Inc., Houston, Texas, USA]

Some previous food systems used in Mercury, Gemini, and Apollo space-flights are briefly described. The importance of acceptability of the food system chosen for the longer Skylab flights is emphasized. The system will use a large variety of foods which will be served from open vessels and eaten with conventional utensils. Foods will be presented in a meal-like fashion. Frozen, thermostabilized and intermediate moisture foods will be used in addition to dehydrated food. The Skylab food tray and beverage container are described. Mechanical, nutritional and organoleptic constraints of the system are considered. Development of the menu involved drawing up a list of possible foods which were then evaluated, and drawing up individual 6-day menu cycles for each astronaut. PG

3

[Freezing techniques in institutional catering.]
Aufgaben der Kältetechnik in der Speisenversorgung. [Review]
Lantzerath, H. K.
Gordian **73** (10) 395-397 (1973) [De] [Linde AG, Werksgruppe IK, Surth, Federal Republic of Germany]

The technology of freezing prepared dishes is reviewed with special reference to its advantages for hospital catering. RM

4

Feeding the volunteer forces today.
United States of America, Research & Development Associates for Military Food & Packaging Systems Inc.
Activities Report **25** (2) iii+101pp. (1973) [En]

This report is divided into 4 main sections: Current military overview; Current industry Overview; Industry displays its wares; and A look at current commercial products. Individual papers are: Military requirements and problems related to industry, by D. van Lydegraf; The overall military problems and plans, by J. A. Spencer; The overall military dietetic and nutritional needs, by H. P. Kamp; Equipment requirements to cope with the new army feeding systems, by B. S. Davis; Military contributions to foods of the future, by J. C. McWhorter, Jr.; Industry overview of foods available now, by F. Lawler; An industry overview of packging available now, by W. Tauber; Industry overview on equipment and feeding systems, by G. T. Baggott; Food programs to feed these times, by E. J. Hekman; How industry uses food in many ways, by H. M. Burgess; Today's food service systems, by J. M. Dymit; Theretort pouch, today's packaging that meets every need, by A. A. Freshour; Monorail meals, by C. Walek; Ingredients for central preparation, by W. H. West; Prepared foods ready for distribution now, by R. B. Coster; Complete menus available for the military, by T. Rand; and Portion control - quality with quantity, by E. Auerbach. AJDW

5

Chemical score of the proteins of rations developed for defence forces.
Rao, M. V. R.; Tara, M. R.; Rao, T. S. S.
Journal of Food Science and Technology, India **10** (3) 89-91 (1973) [9 ref. En] [Defence Foods Res. Lab., Mysore]

3 service rations consisting mainly of atta and potato were analysed for their amino acid composition by ion exchange chromatography. There was a close agreement between values for total N and total essential amino acids as calculated from tables and as determined experimentally. The determined value for lysine in the case of Ration I was found to be low compared to the calculated value; the reverse seems to be the case with methionine and tryptophan. However, the protein scores calculated by the FAO/WHO method did not show much variation except in the case of Ration I where lysine content was found to be much lower than calculated values. AS

6

New equipment and systems in mass feeding.
Sell, W.
Journal of the American Dietetic Association **63** (4) 413-416 (1973) [9 ref. En] [Univ. of Giessen, Federal Republic of Germany]

A description is given of some new automated machines which have proved successful in food service establishments: automated frying appliances, conveyor-type steam pressure cooker, convection ovens, Saucier-mat (automatic processing of sauces), preservation by chilling, and automated dishwashing. VJG

7

Its impact on mass catering.
Boltman, B.
Food Industries of South Africa **26** (4) 23, 25, 27 (1973) [En]

Major problems of the conventional system of mass catering are outlined and ways in which precooked frozen food is able to solve these problems are pointed out. The following aspects are considered: planning, organization and layout, packaging and freezing, storage and transport; and depot and finishing. VJG

8

American's 'Sky Chefs' go back to basics.
Finnegan, T.
Quick Frozen Foods 35 (11) 40-43 (1973) [En]

American Airlines has decided to revert to standard entrees, beef, chicken, fish and seafood for its in-flight food service programme. If this system is generally adopted it will mean greater consumption of top quality frozen products and a reduction or end of gourmet entrees. This change has resulted from a passenger survey which showed that 70-80% of passengers wanted to eat beef, with a strong preference for chicken, fish and seafood emerging from the remaining 20-30%. VJG

9

[Simulated meat dishes from spun vegetable proteins.] Fleischähnliche Gerichte aus gesponnenen Pflanzenproteinen.
Valery, N.
Alimenta **12** (6) 229-230 (1973) [2 ref. De]

A report is given on Edible Spun Protein, ("Kesp") produced by Courtauld Ltd. (UK) from the bean Vicia faba L. The spinning process produces a structure very like that of meat or poultry. Addition of fat and flavours allows incorporation into meals for institutional catering. RM

10

Health laws and regulations - Bulgaria.
World Health Organization
International Digest of Health Legislation **24** (1) 16-22 (1973) [En] [Geneva, Switzerland]

A selection of Bulgarian health laws and regulations is presented including the following which relate to food hygiene: Notice No. 114 of 11 March, 1971, of the Committee for Economic Co-ordination approving the regulations concerning State veterinary public health control, contains veterinary public health provisions applicable to the production, processing, storage and transport of, and trade in, animal products; Health Rules No. 0-14 concerning communal catering establishments, prescribe sanitary requirements to be fulfilled in the design, construction, equipment, maintenance and operation of these establishments. VJG

11

Space food processing environment controls and safety standards.
Heidelbaugh, N. D.; Smith, M. C.; Rambaut, P. C.; Leach, C.
AIChE Symposium Series **69** (132) 87-90 (1973) [10 ref. En] [Nat. Aeronautics & Space Administration, Johnson Space Center, DB3, Houston, Texas 77058, USA]

The NASA food safety programme is discussed under the headings: raw material inspection; processing environment; critical control points of processing; and finished product tests. AA

12

[Vegetable proteins and simulated meats.]
Contour, S.; Gubler, D.
Industries Alimentaires et Agricoles **89** (5) 641-649 (1972) [30 ref. Fr, de, en]

The range of protein-rich products obtainable from soya and the technology of their manufacture id described with explanatory diagrams, with particular reference to textured products. Typical chemical compositions are given, together with a list of major manufacturers. At present the production of extruded products greatly exceeds that of spun fibres. The reconstituted products do not aim to imitate steak or roast meat, but are used in products which contain meat in small pieces, e.g. minces, sausages, hamburgers, patties, meat balls, ready meals. The main markets are for dietetic and vegetarian preparations, in snack foods and in particular in large-scale catering in industrial canteens, schools and hospitals. Examples are given of use in industry, with quantities required and method and time of preparation (e.g. hamburgers for 50 people), together with an example of a cost saving (compared with 100% meat) permitting reduction in the price of a meal. In France the use of simulated meat products in school meals is officially recommended, but this must be in conjunction with meat in a max. proportion of 30%. ELC

13

Hospital fare makes it easier for menu planners to please patients at lower cost.
Anon.
Quick Frozen Foods 36 (3) 21 (1973) [En]

To eliminate the problems of food quality, procurement, menu variety and equipment use, the Armour Food Service Systems, Phoenix, Arizona

are offering a total frozen Hospital Fare programme consisting of full-cooked frozen and preplated meals (36 general diet and 26 for modified diets). Each meal consists of an entree, starch and a vegetable. The meals can be easily reconstituted in any type of oven including a microwave. They are pre-plated in china-like heat-and-serve disposable dishes. Results show that a 300-bed hospital can save $100 000 on kitchen equipment through the use of the total frozen Hospital Fare programme. Savings of 30-35% in labour costs and a reduction of 26% in area for dietary service were reported. VJG

14

[Some current problems in the sphere of brewery research in CERIA. Formation, control and stability of beer aroma and taste.]
Masschelein, C. A.
Petit Journal du Brasseur **81** (3430) 86-87, 89-90, 92 (1973) [Fr]

See FSTA (1973) 5 9H1308.

15

Catering science and technology. [Book]
Pyke, M.
xi+237pp. ISBN 0 7195 4 (1974) [52 ref. En]
London, UK, John Murray (Publishers) Ltd. Price £3.50

This book is intended for the student commencing a career in catering but should also prove useful to any chef or caterer wishing to improve his theoretical knowledge. The book is divided into 3 parts: Food composition (pp. 3-116); Hygiene (pp. 119-155); and Catering equipment and systems (pp. 159-221). Chapters included are: The chemistry of cooking (pp. 3-33); The principles of nutrition (pp. 34-54); The structure of foods (pp. 55-65); The use of heat (pp. 66-94); Refrigeration and thermostatic control (pp. 95-116); The nature of microorganisms (pp. 119-135); Prevention of spoilage and contamination (pp. 136-155); Catering equipment (pp. 159-172); Catering equipment - combined systems (pp. 173-188); Vending machines and catering equipment (pp. 189-205); and 'Convenience' food for catering systems (pp. 206-221). An appendix: The nutritive composition of representative samples of various foods, is included. VJG

16

Current technical requirements of the catering industry.
Shaul, O. C.
Australian Food Manufacture and Distributor **43** (3) 19-20 (1973) [En]

17

Cook-freeze school meals ease space and staff problems.
Hills, G. F.
Packaging Review **93** (10) 48, 50, 55 (1973) [En]

A highly successful cook-freeze catering system for school meals developed in Liverpool utilizes centralized preparation cooking, blast freezing and cold storage of meals, which are then distributed to the peripheral kitchens for reheating as required and serving. A single Al foil tray serves as cooking utensil, storage and transit pack and ultimate container. The Al container is "non-stick" for food and maintains rigidity during oven cooking and deep freezing. Of 60 000 meals/day served at 400 schools, 22 000 are supplied to 100 peripheral kitchens, and this number is being extended to 40 000 meals/day. The central kitchen had replaced 12 conventional kitchens, and peripheral kitchens handling prepared frozen meals alone require only half the space and labour of the conventional kitchens (a major problem with many school buildings). Centralized preparation facilitates control of quality and a nutritional balance of meals. Preparation and packing of meat dishes and sweets into the Al foils are completed in air-conditioned rooms held at 60°F. The meals are then frozen to -20°C in blast freezing tunnels and held in cold store. Requirements for 2 wk are maintained in cold store, which enables a wider variety of meals to be supplied to the peripheral kitchens. ELC

18

Nutritional aspects of nutrient standard menus.
Jansen, G. R.; Harper, J. M.
Food Technology **28** (1) 62-64, 66-67 (1974) [29 ref. En] [Dept. of Food Sci. and Nutr., Colorado St. Univ., Fort Collins, 80521, USA]

This article discusses nutrient standard menu planning methods from a nutritional aspect. Special problems associated with obtaining the required food composition data, picking a nutrient standard, and establishing the basis for meeting the standard are included, as is a discussion of calories, protein, fat, carbohydrates, and engineered foods. IFT

19

Soy protein foods in US assistance programs.
Senti, F. R.
Journal of the American Oil Chemists' Society **51** (1) 138A-140A (1974) [7 ref. En] [Agric. Res. Service, USDA, Washington, DC, USA]

The role of soy protein products in contributing to the improved nutritional value of foods distributed in both the foreign and domestic food assistance programmes is considered. Acceptance of the products has been good and more than 1 billion lb of soy fortified foods were distributed overseas in the yr commencing July 1, 1972. Tables

give the composition of child food supplements (corn-soy milk, corn-soy blend, wheat-soy blend), protein content and protein efficiency ratio of special supplemental foods, and proportion of soy component in soy fortified commodities. Soy protein foods have been introduced into school lunch (textured soy protein and protein fortified enriched macaroni) and breakfast (protein fortified foods e.g. doughnuts, cake-like products and cereal fruit products) programmes. Specifications for nutrient composition of textured vegetable protein and protein-fortified enriched macaroni-type products are given. VJG

20

Soy protein in school feeding programs.
McCloud, J. T.
Journal of the American Oil Chemists' Society **51** (1) 141A-142A (1974) [En] [Board of Education, Memphis, Tennessee, USA]

Textured vegetable protein has been a tremendous asset to the Memphis school feeding programme. There are several reasons for this: it is a dry product, easy to handle and store; shelf life is long enough to permit quantity purchasing and warehousing; dry storage of textured vegetable protein is much cheaper than refrigerated storage of meats; students have not objected to its use; the absorption qualities of the textured vegetable protein allowed the use of ground beef with a 30% fat content, rather than a 22% fat content; it allows a more innovative approach to school food services; and it saves money. The introduction of textured vegetable protein has saved the US school lunch programme millions of dollars. AS

21

Soy products in national and international programs: field and emergency programs.
Higgins, M.
Journal of the American Oil Chemists' Society **51** (1) 143A-145A (1974) [En] [CARE Inc., New York, USA]

Problems encountered in providing food for developing countries and for relief and emergency feeding overseas are discussed. Acceptance and popularization of soy-fortified foods by 2 US agencies with the largest feeding programmes, CARE and Catholic Relief Services, are considered. Precooking and sweetening of soy/cereal blends have improved their acceptability. VJG

22

International programs utilizing soy foods: the World Food Program.
Hutton, G. H. W.
Journal of the American Oil Chemists' Society **51** (1) 146A-148A (1974) [En] [Resource Management Div., World Food Programme, FAO, Rome, Italy]

The World Food Programme (WFP) was set up 10 yr ago by FAO as a multilateral agency with responsibilities for promoting economic and social development in developing countries through food aid. The introduction and utilization of soy foods in WFP assisted projects and the problems encountered are considered. 2 blended foods corn-soy milk and wheat-soy blend became available to the programme in 1970 and more recently products derived from corn meal, bulgur, sorghum grits and rolled oats have been added. A brief summary is given of experiences in programming soy products and the impact this has made on WFP resources and the nutritional welfare of the recipients. VJG

23

Food for Peace Program.
Ellis, F.
Journal of the American Oil Chemists' Society **51** (1) 149A (1974) [En] [FAO/United Nations, Soy/Grain Products Special Committee, Washington, DC, USA]

The Food for Peace Programme of the US Agency for International Development started in 1954 and will be continued even in time of short food supplies. The Food for Peace Programme, the USDA, and cooperating food processors developed technology for large scale production of soy/grain blended foods. AS

24

The microbiological safety of food. [Conference proceedings]
Hobbs, B. C.; Christian, J. H. B. (**UK,** International Association of Microbiological Societies) (Editors)
xv+487pp. ISBN 0 12 350750 2 (1973) [many ref. En] London, UK, Academic Press Price £7.50

The Eighth International Symposium on Food Microbiology held at Reading, UK in Sept. 1972 was divided into 5 sessions: Bacteriology of various commodities in relation to food poisoning (pp. 3-126); Epidemiology of food-borne infection in man and animals (pp. 129-270); Special laboratory techniques (pp. 273-343); Legislation and non-legal specifications (pp. 347-392); and Education (pp. 395-451). Papers presented include: Hygiene during meat production, by E. Hess (pp. 3-8, 6 ref.); Salmonella contaminated animal feed in relation to infection in animals and man, by R. W. S. Harvey (pp. 9-17, 21 ref.); Recent trends of Vibrio parahaeomyticus as a causative agent of food poisoning, by R. Sakazaki (pp. 19-30, 35 ref.); Bacteriophages and toxigenicity of Clostridium botulinum, by M. W. Eklund & F. T. Poysky (pp. 31-39, 8 ref.); Abattoir practices and their effect on the incidence of Salmonella in meat, by E. F. Williams & R. Spencer (pp. 41-46, 5 ref.); Hygiene in catering, by H. Brodhage & B. Anderhub (pp. 47-53, 15 ref.); Bacillus cereus in milk and dairy products, by F. L. Davies & G. Wilkinson (pp. 57-67, 30 ref.); [Continued in following abstr.] VJG

25

The microbiological safety of food. [Conference proceedings]
Hobbs, B. C.; Christian, J. H. B. (UK, International Association of Microbiological Societies) (Editors)
xv+487pp. ISBN 0 12 350750 2 (1973) [many ref. En]

[Continued from preceding abstr.] Education and training in food hygiene in the United Kingdom, by F. Aylward & R. K. Robinson (pp. 395-403, 9 ref.); Training public health workers and food service managers, by F. L. Bryan (pp. 405-415, 22 ref.); Education in the food processing industry, by H. Riemann (pp. 417-421, 4 ref.); Food hygiene education in the Netherlands, by E. H. Kampelmacher (pp. 423-426, 4 ref.); Problems of the training of food microbiologists, by H. J. Rehm (pp. 427-434); and Education in microbiological safety standards, by N. Goldenberg & G. Edmonds (pp. 435-451, 12 ref.). VJG

26

[Meal distribution in hospital or factory.]
Speisenverteilung in Krankenhaus oder Betrieb.
Rademacher, R.
Ernährungs-Umschau **20 (10) 422-423 (1973)** [De]

This continuation of the article reviewed in the preceding abstr. deals with the Dry-heat, Finessa and Elektroluse-Helitherm systems of tray-portioning of meals and with some aspects of mass catering in factories. [See also following abstr.] SKK

27

[Possibilities of participation of the refrigeration industry in industrial catering systems based on prepared packaged dishes.]
Vasilescu, S.; Niculescu, L.
Industria Alimentara **24 (1) 25-26 (1973)** [Ro, en, fr, de, ru] [Inst. de Cercetari si Proiectari Alimentare, Bucharest, Rumania]

Production of frozen packaged dishes for Rumanian industrial catering is considered and preparation schemes for soup, meat dish, potato dish and pastry assortments are diagrammatically presented. SKK

28

[The role of packaging in Air France catering services.]
Anon.
Emballages **43 (305) 52-55 (1973)** [Fr]

An account is given of the organization and operations of catering services, in the air and on the ground, based on supplies assembled at a central depot at Orly Airport. Functions of the catering division include preparation of meals of varied types, hot or cold, packaging of individual servings, loading of aircraft based on passenger list information, unloading of aircraft and sorting and cleaning of re-usable material, and storage of stocks. The importance of packaging and low temp. storage as essential requirements of the system is emphasized. In addition to ready-to-serve meals, packaging systems and materials are required for beverages and accessory materials (cutlery, crockery, condiments, etc.). Data are given for 1972 on the usage of meals and beverages of various types and of the variety of containers and packaging materials employed. ELC

29

Restaurama. A look at a new catering system.
Anon.
Industrial & Welfare Catering **5 (5) 14, 16 (1974)** [En]

The Bateman Catering Organization has developed a catering system in which deep frozen food prepared by Telfers is delivered in single person size disposable containers, reheated and kept hot in temp. controlled ovens prior to being displayed in heated self-service counters. A pilot scheme being tested at Express Lifts, Northampton (part of GEC Ltd.) has been successful. An 8 wk menu programme prevents menu fatigue. Elimination of cooking and serving meals on the canteen premises has greatly reduced space, labour and electrical power requirements. PG

30

Group catering in the [UK] army.
Ivall, S.
Industrial & Welfare Catering **5 (6) 3-4, 8, 10, 12 (1974) [En]**

31

Nutrition and technology of foods for growing humans. [Conference preceedings]
Somogyi, J. C. (International Union of Nutritional Sciences; International Union of Food Science and Technology; **Switzerland,** Institute for Nutrition Research) (Editor)
Bibliotheca 'Nutritio et Dieta' **18,** 1-288 ISBN 3 8055 1317 8 (1973) [many ref. En]

[Cont. from preceding abstr.] Significance of salt level in food for infants and children, by W. Droese, H. Stolley, C. Schlage & B. Wortberg (pp. 215-223, 20 ref.); Enrichment and fortification of foods for infants and children, by W. Kübler (pp. 224-245, 81 ref.); Nutritional value of commercially produced foods for infants, by H. P. Sarett (pp. 246-266, 43 ref.); Evaluation of school feeding programmes in Japan, by N. Shimazono (pp. 267-279, 12 ref.); Evaluation of school feeding programmes in some European countries, by R. Tarjan (pp. 280-288, 10 ref.). VJG

32

Royal Navy catering.
Ivall, S.
Industrial & Welfare Catering 5 (7) 3-4, 6-7 (1974) [En]

33

An analysis of selected systems for providing food service to low-income elderly in metropolitan housing centers.
Kincaid, J. W.
Dissertation Abstracts International, B 34 (2) 746:Order no. 73-18913 (1973) [En] [Ohio St. Univ., 190 North Drive, Columbus, 43210, USA]

This investigation was designed to evaluate food service systems for providing meals for the elderly living in housing centres in the USA. From food preference data obtained from answers to a questionnaire by 150 elderly people, a 3 wk cycle menu was developed. Food costs were calculated, they averaged 62 cents/meal. Labour costs, calculated for 3 different systems (centralized satellite system, decentralized system, decentralized system with centralized purchasing), were 39, 45 and 49 cents/meal, respectively. Overhead costs were 13, 8.8 and 8.9 cents/meal. Meal costs (at 600 meals/day) for the 3 above-mentioned systems and a catered service were: $1.16, $1.178, $1.219 and $1.95/meal respectively. It is concluded that a satellite food service system with a centralized commissary kitchen coupled with meal delivery to satellite kitchens would most effectively serve the needs of the elderly in the area studied. JA

34

Marketing of domestic ducks - some market research and product development aspects.
Patterson, G. W.
Dissertation Abstracts International, B 34 (1) 266-267: Order no. 73-15846 (1973) [En] [Purdue Univ., Lafayette, Indiana, USA]

A survey of hotel, restaurant and institutional catering establishment managers and executive chefs showed that the main problem limiting duck sales is lack of consumer demand; problems of cost, convenience, yield, etc. were of secondary importance. Three raw primary products (trimmed whole, trimmed half and semiboneless trimmed half duck) were developed in an effect to provide a more attractive product for the catering trade. By-products were used for production of skin cracklings and pate products; details of processing conditions are given. Suggestions are given for basic research on duck and duck products, studies on the domestic and institutional market for duck, and marketing and promotion campaigns. AJDW

35

[Use of iodophor-based product for washing and disinfection of utensils in communal feeding undertakings.]
Iosilevich, A. I.; Suchkov, V. V.; Sergeev, V. S.; Pilipenko, T. V.
Gigiena i Sanitariya No. 5, 99-100 (1974) [2 ref. Ru] [Tul'skii Filial Vses. Nauchno-issled. Inst. Khimicheskoi Promyshlennosti, Shchekino, USSR]

(i) laboratory tests using water at 54-56°C containing 0.01-0.5% of the MDS iodophor detergent/sterilizer (containing 16% alcohol-soluble compounds) and (ii) tests under canteen conditions using water at 55°C containing 0.2% MDS, with rinsing water in both tests at 60°C showed good detergent properties and absence of Escherichia coli on plates washed with MDS at 0.05% concn. and with >15 s exposure in (i) and at the concn. used (0.2%) in (ii). MDS is recommended at this concn. for hand-washing of utensils in canteens. SKK

36

The blanching of vegetables and fruits. [Booklet]
Voirol, F.
16pp. (1972) [37 ref. En] London, UK, Roche Products Ltd.

The following aspects are considered: methods of blanching; enzymes activity in cut vegetables and fruits; ascorbic acid and enzymatic oxidation systems in blanching; blanching procedures for some vegetables and fruits (potatoes and potato products, spinach, cauliflower, sauerkraut, mushrooms, green vegetables, apples and pears, cherries, peaches and plums); and prepared wholesale vegetables and fruits (for restaurants, schools, canteens and general catering). VJG

37

[Training of dieticians, and objective hygiene control in kitchens.]
Bessemans, J.; Veulemans-Kastelijn, A.
Voeding 35 (6) 321-327 (1974) [7 ref. Nl]

Details are given of studies on the incidence of Enterobacteriaceae, Staphylococcus aureus and faecal streptococci in the kitchens of catering establishments in Belgium (3 hospitals, 3 industrial canteens and 5 schools). Kitchen hand-towels, toilet hand-towels, dishcloths, washed plates, working surfaces, cutting machines and the hands of kitchen personnel were sampled by a contact-plating method using appropriate nutrient media; to determine bacterial counts in the air, agar plates were exposed for 20 min. Tables of values are given for the number of samples having counts of <1, 1-10, 10-10^2 or >10^2 bacteria/25 cm^2 sampled. The results showed that a large proportion of samples failed to comply with proposed standards for hygiene in kitchens. AJDW

38

[Development and future importance of communal feeding in the Federal Republic of Germany.]
Entwicklung und zukünftige Bedeutung der Gemeinschaftsverpflegung in der Bundesrepublik Deutschland.
Neubauer, G.
Ernährungs-Umschau 21 (4) 130-131 (1974) [De]

This article consists of excerpts from a report prepared for the German Federal Ministry of Nutrition, Agriculture and Forestry by the Association of State Recognized Assistant Dieticians and Nutrition Advisers (Vereinigung staatlich anerkannten Diätassistentinnen und Ernährungsberaterinnen, e.V. Bad Honnef). Numbers of persons/day who used communal feeding establishments in 1970 and are expected to use them in 1985 are given respectively as (millions): works canteens and Armed Forces messes, 4.5 and 13.5; old-age homes and central kitchens, 0.3 and 4; restaurants, 5.3 and 8.8; schools, 0.14 and 4.3; and other (mainly hospitals and student canteens), 1 and 1. Mass catering establishments consist at present of 54 000 restaurants, 10 000 works canteens and 12 000 catering establishments in institutions and homes.
SKK

39

Cook/freeze catering. An introduction to its technology. [Book]
Glew, G. (Editor)
168pp. (1973) [21 ref. En] London, UK, Faber & Faber. Price £4.00 [Catering Res. Unit., Leeds Univ., UK]

This book describes the principles and technology of cook/freeze catering. It considers how the use of precooked frozen food enables the caterer to use the science-based techniques of the food manufacturer. The following chapters are included: Technological change and the catering industry (pp. 19-31); Freezing, storage, transport and reheating (pp. 32-56); Physical and chemical changes due to food processing (pp. 57-82); Microbiological aspects (including microbial growth, food spoilage and food poisoning, production of cooked food for freezing) (pp. 83-104); Food production (equipment, space and staff; food and recipe formulation; effects of processing on palatability) (pp. 105-138); and Packaging (including package function, materials, safety and hygiene, and containers) (pp. 139-148). 3 appendices are included: Calculation of freezing and reheating time (pp. 149-151); Brief specification for a blast freezer (p. 152); and Precooked frozen foods - guidance on nutritional and hygienic implications (pp. 153-160). VJG

40

Health laws and regulations - Kenya.
World Health Organization
International Digest of Health Legislation 24 (2) 332-334 (1973) [En] [Geneva, Switzerland]

A selection of Kenyan health laws and regulations is presented including the following which relate to food hygiene: An Act of Parliament (No. 7 of 1972), the Meat Control Act, 1972, (dated 6 July, 1972) to enable control to be exercised over meat and meat products intended for human consumption, and over slaughterhouses and places where such meat is processed; and to provide for import and export control over such meat and meat products; and the Hotels and Restaurants Regulations, 1972 (dated 4 Oct., 1972) which include provisions intended to maintain hygienic standards in such establishments, with particular reference to the quality of water.
VJG

41

Food purchasing: study course. [Book]
Ross, L.; McHenry, R. M.
xi+97pp. ISBN 0 8138 0810 3 (1971) [11 ref. En] Ames, Iowa, USA; St. Univ. Press. Price $3.95

This manual is intended for in-service training of personnel engaged in food purchasing for service in catering establishments (hospitals, schools, restaurats, etc.), including techniques for food selection and purchase and the maintenance and use of records. It is based on 12 lessons, which can be covered by self-study; they include some practical exercises and are completed by a written review. Titles of the 12 lessons are: The purchaser and the market; Forms and records; Using forms and records in figuring costs; Red meats; Poultry and fish; Milk, milk products and substitutes; Eggs and cheese; Fruits and vegetables; The extras; Convenience foods; Spending the food dollar; and a Summary. The detailed examples given refer to conditions in the USA. ELC

42

An annotated bibliography on microwaves, their properties, production, and applications to food processing. [Book]
Goldblith, S. A.; Decareau, R. V.
xi+356pp. ISBN 0 262 07049 9 (1973) [En] Cambridge, Massachusetts, USA; MIT Press. Price £6.75 [Massachusetts Inst. of Tech., USA]

This annotated bibliography covers more than 600 articles (including patents), the abstracts being cross-indexed by author and by subject and arranged alphabetically under the following headings: Books review articles and announcements (pp. 1-39); Biological effects of microwaves, personnel safety, measurement of low doses, etc. (pp. 43-75); Dielectric properties of foods and biological materials and their

measurement (pp. 79-115); Microwave equipment - power sources, ovens, wave guides, tunnels, etc. (pp. 119-168); Applications of microwaves for the following purposes: baking and milling (pp. 171-182); blanching and enzyme inactivation (pp. 183-191); cooking (pp. 192-214); defrosting of frozen foods (pp. 215-229); dehydration (pp. 230-242); food service, vending, and catering (pp. 243-253); freeze dehydration (pp. 254-266); insect control (pp. 267-268); nutritional effects of microwaves (pp. 269-277); packaging for microwave processing (pp. 278-283); potato chip finish drying (pp. 284-288); poultry precooking (pp. 289-293); precooked bacon and meat processing (pp. 294-301); processing - general and miscellaneous (pp. 302-317); and sterilization and pasteurization (pp. 318-336). VJG

43

Abstracts of paper presented at the 62nd Annual Meeting of the Poultry Science Association, Inc. United States of America, Poultry Science Association
Poultry Science **52** (5) 1993-2106 (1973) [En]

[Continued from preceding abstr.] Effect of low chloride diets on shell thickness, by R. A. Ernst, R. E. Burger & K. Ingraham (p. 2025); Optimum Salmonella enrichment method for poultry meat, by D. J. Fagerberg & J. S. Avens (p. 2026); The effect of varying protein and calcium levels on feed consumption, egg production, egg weight, shell thickness and the specific gravity of the eggs of Ringnecked pheasants, by C. J. Flegal, C. C. Sheppard, K. Lee, S. Varghese, R. A. Shellenbarger & J. L. Dale (p. 2027); Michigan FFA broiler growing educational project revisited, by C. J. Flegal, C. C. Sheppard & J. H. Wolford (pp. 2027-2028); Effect of temperature and moisture on egg shell breaking strength, by G. W. Froning & D. P. Holder (p. 2029); Effect of Robenidine and Roxarsone on pigmentation of shanks and skin of broilers, by J. L. Fry & R. H. Harms (p. 2029); Fermentation of whole egg by heterofermentative streptococci, by S. J. Galluzzo, O. J. Cotterill & R. T. Marshall (p. 2030); Chromatographic and electrophoretic studies of liquid and spray-dried egg white, by R. D. Galyean & O. J. Cotterill (p. 2030); Bacterial counts at selected stations in broiler processing plants, by F. A. Gardner & F. A. Golan (p. 2030).
AA

44

Criteria and organizational decision making about food procurement in health care facilities.
Farevaag, L. H.
Dissertation Abstracts International, B **34** (10) 5038: Order no. 74-481 (1974) [En] [Univ. of Wisconsin, Madison 6, USA]

The purpose of the investigation was to identify criteria likely to be of greatest practical use in the organization of food procurement by health care institutions in relation to those incorporated in training curricula. A review of procurement methods in business and industry revealed 20 criteria which were classified as 5 major variables designated as internal environment, external environment, technological and personal skills, formal procurement procedures and complexity of decisions. Numerical scales were developed and a survey was made to determine the extent of use of the criteria by non-profit short-term hospitals and by educationalists engaged in training undergraduates or catering institution employees. Results varied between different hospitals with diverse organizational structures and produced variations between practical procedures of administrators and training programme recommendations; agreement was closest when hospitals operated with either a budgeted food cost/meal or centralized buying. A general conclusion is that the criteria used in industry could be applied with advantage in health service institutions. ELC

45

Luncheon and supper dishes. [Book]
Blair, E. C.
213pp. ISBN 0 8436 0559 6 (1973) [En] Boston, Massachusetts, USA; Cahners Books. Price $12.50

Recipes for the large-scale production of >200 luncheon and supper entrees are detailed. They have been selected from the recipe section of the Institutions/Volume Feeding Management Magazine and are accompanied by suggestions for accompaniments and a number of photographs. The book is divided into the following sections: Soups (pp. 2-15); Cheese dishes (pp. 16-25); Vegetable entrees (pp. 26-39); Egg dishes (pp. 40-53); Pasta and rice (pp. 54-79); Sandwiches (pp. 80-103); Salads (pp. 104-125); Poultry (pp. 126-141); Fish and seafood (pp. 142-169); and Meat (pp. 170-210). The recipes should prove suitable for application in institutional catering. JA

46

Children accept fish-based school lunch entrees.
Beach, B. L.; Hitchcock, M. J.; Goertz, G. E.; Cook, A.
Food Product Development **7** (7) 104, 106, 110 (1973) [5 ref. En] [Dept. of Food Sci. & Food Systems Administration, Univ. of Tennessee, Knoxville, USA]

Fish entrees developed under laboratory conditions for the school lunch programme, using 5 different kinds of fish were taste tested using a children's panel to find the 10 most acceptable entrees for field testing in 20 schools in Tennessee These 10 entrees incorporated canned tuna and canned mackerel, frozen cod or frozen perch, and frozen haddock. All entrees except jellied tuna salad received better than 50% acceptance; % acceptance being defined as the % of total respondents scoring the entree 4 or higher on the 5

point facial hedonic scale. 70% of the children accepted sailor boy's pizza (pizza with chunks of canned mackerel) and fish patty on cornmeal bun (canned mackerel with breadcrumbs and spicy seasonings) with a rating of 5. It was concluded that children from 6 to 12 yr of age can readily accept unfamiliar or disliked food that is specially designed for them and introduced in a social setting such as school lunch. VJG

47

Problems in packaging frozen foods.
Showell, D. C.
Food Processing Industry 43 (511) 30-32 (1974)
[En] [HTI Eng., Dartford, Kent, UK]

Fundamental principles of packaging frozen foods and the factors affecting packaging costs are listed. The principles involved in finding the lowest finished packaging costs are considered. A special flow diagram for a central cook/freeze plant is presented to indicate the variety of factors affecting the efficiency of frozen food packaging. The economic advantages of centralized processing, cooking and freezing operations are described. Materials used in cook/freeze catering are considered: Al, plastics, and composite laminates. VJG

48

Food technology and the catering industry. [Symposium]
United Kingdom, Institute of Food Science & Technology, Scottish Branch
IFST Proceedings 5 (1) 30-53 (1972) [En]

Abridged versions are given of the following papers which were presented at this symposium held on 7-8 Dec. 1971: Catering, by D. H. O'Shaughnessy (pp. 30-34); What are the technological requirements of the catering industry?, by P. R. Shill (pp. 35-37); Catering for a descriminating market, by M. A. Roberts (pp. 38-39); Nutritional aspects of contemporary catering, by A. E. Bender (pp. 40-42, 6 ref.); Microbiological aspects of frozen food for catering, by W. E. Crabb (pp. 43-46, 3 ref.); The special requirements of institutional catering - practical experience of a new concept, by G. Glew (pp. 47-50, 9 ref.); Systems catering - a total approach, by S. S. Brown (pp. 51-53); and Is food technology serving the needs of the catering industry?, by G. F. Wall (pp. 53-55). JA

49

Development of the individual - a goal of the food service industry. [Conference proceedings]
Eshbach, C. E. (United States of America, Society for the Advancement of Food Service Research) (Editor)
109pp. (1972) [En] Chicago, Illinois; USA

These Proceedings record the 19 lectures and associated discussions of the 26th Conference of the Society for the Advancement of Food Service Research held on 6, 7, 8 April 1972 in Dallas, Texas, USA. The basic theme concerned the human problems of workers in the food catering industries in relation to their recruitment, work satisfaction and ability to keep pace with advances in science and technology. Major topics were: Career ladders in the industry and prospects of progression within it; Recruitment of workers for various sectors, e.g. hotel, restaurant, institutional; Improvement of personnel training and training schemes in the industry; and Increasing productivity and methods of measuring employee productivity. ELC

50

Food fundamentals. [Book]
McWilliams, M.
2nd edition 592pp. ISBN 0 471 58736 2 (1974)
[En] New York, USA; John Wiley & Sons, Inc.
Price £6.00 [St. Univ., Los Angeles, California, USA]

This book is intended to assist students to develop their ability to prepare and evaluate nourishing and satisfying foods. The new edition has been extensively revised to provide a broader base of information on food buying. The sections on fish and poultry have been expanded and the discussion of crystallization has been broadened to include frozen foods. The book is divided into 3 parts: Food preparation; Food management; and Food science. Chapters included are: Food preparation today (pp. 1-6, 2 ref.); Important factors in food preparation (pp. 7-20, 9 ref.); Beverages (pp. 23-50, 15 ref.); Vegetables (pp. 51-95, 27 ref.); Fruits (pp. 96-123, 23 ref.); Salads and salad dressings (pp. 124-144, 13 ref.); Cereals and starch cookery (pp. 145-174, 18 ref.); Milk and cheese (pp. 175-202, 16 ref.); Meats, fish, and poultry (pp. 203-265, 36 ref.); Eggs (pp. 266-294, 11 ref.); Leavening agents (pp. 295-308, 22 ref.); Baked products (pp. 309-354, 24 ref.); Crystallization: sugar cookery and frozen desserts (pp. 355-375, 6 ref.); Food preservation (pp. 379-399, 20 ref.); Food sanitation problems (pp. 400-416, 27 ref.); meal management (pp. 417-448, 7 ref.) VJG

51

Food and beverage management. [Book]
Fearn, D. A.
294pp. ISBN 0 408 70158 7 (1973) [15 ref. En]
London, UK; Butterworth & Co. Ltd. Price £4.00

The objective of this book is to provide the hotel and catering industry with a comprehensive reference to the complexities of managing food and beverage operations. Chapters included are: Food and beverage management - its meaning (pp. 1-15); Market research (pp. 16-34); The 'meal experience' (pp. 35-47); Planning the menu (pp. 48-56); Menu marketing (pp. 57-63); The back door (pp. 64-72); Requisitions (pp. 73-77); Storage (pp. 78-83); Centralized production (pp. 84-95); Advertizing

and promotion (pp. 96-107); Purchasing wine (pp. 108-114); Bar and cellar stockholding (pp. 115-124); The economics of food and beverage operations (pp. 125-143); Kitchen planning (pp. 144-150); Personnel administration (pp. 151-163); Control (pp. 164-179); Food control (pp. 180-198); Liquor control (pp. 199-224); Manpower control (pp. 225-231); Total control and management action (pp. 232-255); Training (pp. 256-262); Future of food and beverage operations (pp. 263-275); and Management audit (pp. 276-283). VJG

52

Contract foodservice/vending. [Book]
Gardner, J. G.
xii+157pp. ISBN 0 8436 0568 5 (1973) [En]
Boston, Massachusetts, USA; Cahners Publishing Co., Inc. Price $12.50

This book gives practical guidelines to: the company executive responsible for implementing a foodservice/vending program; operators of employee foodservices; and foodservice teachers and students. The subject is covered under the headings: General background (pp. 1-5); Historical development of industrial foodservice (pp. 6-10); The professional foodservice contractor (pp. 11-17); Operating the manual cafeteria (pp. 18-28); Selling prices of food (pp. 29-33); Understanding profit and loss statements (pp. 34-45); Various types of financial arrangements (pp. 46-48); Vending (pp. 49-59); Economics of vending (pp. 60-71); The proposal (pp. 72-77); Proposal exhibits (pp. 78-93); Controls to insure compliance by foodservice contractor (pp. 94-97); Trends in the industry (pp. 98-104); Conclusion (pp. 105-111); Sample contracts (pp 112-148). A 4-pp glossary and a 5-pp. subject index are appended. JN

53

The influence of freezing on the development of the meat industry. [Conference proceedings]
Harrington, G.
MRI [Meat Research Institute] Symposium No. 3, 2.1-2.6 (1974) [10 ref. En]

The effects of advances in freezing technology on the meat industry in the UK are discussed, with reference to: international trade in frozen and chilled beef, lamb and mutton; consumer opinions on the quality of frozen meat; freezing and cold storage of meat to smooth the supply curve; frozen meat and meat products in the catering market, with reference to portion control; the trend towards home freezers; and the role of freezing in retail distribution of meat. AJDW

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H. BROOKES

ASSISTANT EDITOR

1

[Market for large consumers.] Der Markt für Grossverbraucher.
Sauerland, I.
***Deutsche Molkerei-Zeitung* 95** (31) 1140-1141 (1974) [De] [CMA, Bonn-Bad Godesberg, Federal Republic of Germany]

Of 400 restaurants surveyed in the German Federal Republic over the 2nd and 3rd quarters of 1973, only 53-58% bought milk, whereas 82-89% of 250 canteens and 91-94% of 250 institutions did so. The corresponding figures for yoghurt were 28-32, 40-48 and 80-85%, for quarg 40-42, 55-59 and 92-93%, for cheese 92-93, 67-69 and 93-95%, and for butter 86-90, 70-75 and 91-96%. Of 180.9 million l. milk purchased by large-scale consumers in the first 3 quarters of 1973, some 70% went to institutions but only 18% to canteens and 12% to restaurants; institutions also purchased the greatest amounts of yoghurt, quarg, cheese and butter. Large-scale consumers purchased their dairy products mainly from dairies or from wholesalers. In composing menus, 38% of restaurants were guided by customer's wishes and only 28% by cost, whereas some 40% of canteens and institutions were guided by cost, 35% by the need for variety and 35% by dietetic considerations. 24% of restaurants, 8% of canteens and 7% of institutions did not consider nutritional considerations important. ADL

2

[Method for packaging sliced cheese, and products obtained.]
Boef, C. J.
Netherlands Patent Application 7 216 164 (1974) [Nl]

A dimensionally stable casing for vacuum-packed sliced cheese consists preferably of a box and lid of impact-resistant polystyrene, connected by a ring of PVC. After evacuating the boxes in a vacuum chamber, the lids are pressed on by springs while outside air is admitted. The slices packaged by this method are easily separated after opening of the package without paper interlayer being required. The package and method are particularly suitable for larger quantities as e.g. required by canteens, hospitals, restaurants etc. W&Co

3

Menu design. Merchandising and marketing. [Book]
Seaberg, A. G.
389pp. 2nd edition. ISBN 0-8436-0572-3 (1973) [En] Boston, Massachusetts, USA; Cahners Books Price £8.30 [Seaberg Menu Res. Service, Highland Park, Illinois, USA]

This book, newly revised, expanded and updated, is the comprehensive guide to all phases of menu preparation including design, writing, production and printing, paper choice, type selection and illustrations. In adition to presenting practical answers to a wide variety of menu problems, this edition contains new sections on room service menus, special occasion menus, the German menu and the Mexican-Spanish menu. Other aspects considered are: selling other things on the menu; continentalizing the menu; merchandizing low calorie items and steak; wine lists; describing seafood; various menus - breakfast, children's, hospital, Italian-American, Chinese-Oriental, fast-food-multiple operation and flexible menus; various foods on menus - sandwiches, appetizers, salads and desserts; after dinner drinks; a la carte and complete dinners; and menu prices. The book publishes data from a variety of food service operations that provide an invaluable foundation for important marketing decisions. A collection of 'clip art' illustrations and headings is included. These can be cut from the book and given to the printer for menu illustration. Sample menus from all types of foodservice operations are presented. VJG

4

Frozen convenience foods work 'miracle' at Mercy hospital.
Finnegan, T.
***Quick Frozen Foods* 36** (8) 26-29 (1974) [En]

A description is given of the food service system used at the 413 bed Mercy Hospital, in Buffalo, New York, which combines the use of frozen convenience foods, microwave cookery and a Differential Heating Container. Advantages noted are: 90% reduction in patient complaints about cold, tasteless foods; improvement in quality and preparation of foods; reduction in labour force; savings of 40% in preparation equipment purchases; and kitchen area occupies less space. VJG

5

Foodservice for the extended care facility. [Book]
Kotschevar, L. H.
509pp. ISBN 0-8436-0548-0 (1973) [67 ref. En]
Chicago, Illinois, USA; Institutions/Volume Feeding Magazine Price $19.95

This book aims at providing information on the operation of food services in small extended care facilities. Chapters included are: Health care and the extended care facility (pp. 3-18, 7 ref.); Management, supervision and personnel (pp. 19-80, 9 ref.); Foodservic [illegible] 107, [illegible]f.); Nutrition (pp. 108-133, 6 ref.); Menu planning (pp. 134-236, 15 ref.); Food production principles (pp. 237-278, 12 ref.); Purchasing (pp. 279-346, 8 ref.); Sanitation (pp. 347-399, 10 ref.); Safety (pp. 400-417); Layout and equipment (pp. 418-480, 12 ref.). An appendix: Conditions of participation - extended care facilities - Regulations, US Department of Hew, is included. VJG

6

School foodservice. [Book]
Egmond, D. van
vii+408pp. ISBN 0-87055-160-4 (1974) [many ref. En] Westport, Connecticut, USA; AVI Publishing Co. Inc. Price $30 (USA) $31 (foreign) [Prince George's County Public Schools, Maryland, USA]

This book endeavours to bring together much of the available information on the school foodservice for the convenience of students in correspondence courses, in vocational training courses, and in colleges and universities. Chapters included are: overview and history of school foodservice (pp. 1-25, 29 ref.); Organization management (pp. 26-44, 22 ref.); Personnel management (pp. 45-73, 15 ref.); Work planning and simplification (pp. 74-95, 9 ref.); Nutrition (pp. 96-117, 17 ref.); Menu planning (pp. 118-144, 14 ref.); Purchasing food (pp. 145-183, 21 ref.); Food preparation (pp. 184-218, 16 ref.); Sanitation (pp. 219-237, 16 ref.); Cost management (pp. 238-269, 8 ref.); The foodservice management company (pp. 270-282, 15 ref.); Food systems (pp. 283-316, 12 ref.); Planning foodservice facilities (pp. 317-331, 9 ref.); and Equipment (pp. 332-371, 8 ref.). 4 appendices are included: National School Lunch Act Public Law 396 - 79th Congress; Child Nutrition Act of 1966, as amended; National School Lunch Act, as amended; and Milk Bid Sample. VJG

7

[Manufacture of prepared meals and intermediate products by the meat industries of the USSR and the German Democratic Republic.]
Pokorny, V.
Zpravodaj Masneho Prumyslu No. 2, 34-38 (1973) [Cs] [Vyzkumny Ustav Masneho Prumyslu, Brno, Czechoslovakia]

Literature data on problems of manufacture of meat-based prepared meals and other meat products for restaurants, canteens and domestic consumers is discussed, with reference to the need to increase the proportion of centrally-prepared products in order to reduce the costs and work load in catering establishments. STI

8

[Quick freezing gravitational conveyor apparatus GKA-4.]
Rotenberg, A. G.
Kholodil'naya Tekhnika No. 4, 19-25 (1974) [4 ref. Ru] [Vses. Nauchno-issled. Inst. Kholodil'noi Promyshlennosti, USSR]

The GKA-4 apparatus is the most satisfactory modification of the quick freezing gravitational conveyors of the GKA series. It is very versatile, as different products may be frozen e.g. poultry, meat, quarg, corn, ready-to-serve dishes etc. The apparatus may be installed in 4 alternative forms for various sizes of products. In comparison with the previous GKA-2 type the new type operates more reliably. A considerable number have already been manufactured and installed and have proved their value under commercial conditions. STI

9

[Manufacture and use of semi-rigid containers.]
Anon.
Revue de la Conserve Alimentation Moderne No. 27, 103-104 (1974) [Fr]

The manufacture and use of semi-rigid containers at the Liebig plant, Pontet, Avignon, France, are briefly discussed under the following headings: cold stamping of the Al-based containers; filling with food using classical methods; strict control of heat-sealing of closures; and sterilization and incubation. The containers are used for pre-cooked meals. JA

10

[Heat-sterilization of prepared foods in flexible packs.] Hitze-Sterilisation von Menü-Komponenten in flexiblen Folien.
Schott, O.; Pfeiffer, H. J.; Törber, D.
Verpackungs-Rundschau 25 (9) 820-824, 826 (1974) [15 ref. De, en, fr]

Packaging and sterilization of prepared foods (e.g. meat products) in flexible film packs is briefly discussed, with reference to: basic microbiological considerations; heat transfer during sterilization of flexible packs (with special reference to advantages over conventional rigid packs); and the temp. regime during sterilization (with reference to the effects of pack shape and characteristics of the pack contents on the required sterilization time). IN

11

[Possibilities and opportunities for catering systems in Romania.]
Hanciu, C.
Industria Alimentara 25 (6) 273-277 (1974) [Ro, en, fr, de, ru] [Centrala Ind. Carnii, Romania]

This illustrated article considers introduction of systems of collective catering in Romania based on frozen prepared dishes or complete menus. SKK

12

[Deep-frozen ready-to-eat dishes, a technological problem for the future.] Tiefgefrorene Fertiggerichte, eine technologische Problemstellung für die Zukunft. [Lecture]
Bielig, H. J.
Fleischwirtschaft 54 (9) 1486-1488, 1491 (1974) [3 ref. De, en, fr] [Inst. für Lebensmitteltech., Tech. Univ., 1000 Berlin (West) 33]

13

[Frozen prepared school meals.] Schulverpflegung mit industriell herstellten Gefriermenüs.
Anon.
Gordian **74** (10) 324 (1974) [De]

The quality, palatability, nutritive value and storage properties of 108 frozen school meals were examined including meat, vegetable, starch – (potatoes, rice), fish and egg dishes, stews and bakery products. Palatability of 34% samples was excellent, and of 50% was good. On an annual basis, the required 30% of daily requirement of protein and ascorbic acid was supplied, but the fat, carbohydrate and energy requirements were insufficient. Most of the meals could be stored 5-6 months at -35°C without loss of quality. RM

14

[Bacterial flora in frozen prepared foods.]
Horie, S.; Okuzumi, M.; Obata, K.; Hayashi, O.
Journal of the Food Hygienic Society of Japan [Shokuhin Eiseigaku Zasshi] **15** (1) 30-35 (1974) [14 ref. Ja, en] [Univ. Fisheries, Konan 4, Minato-ku, Tokyo, Japan]

Studies on the bacterial flora of 14 frozen prepared foods are described. Bacteria were isolated and enumerated by a smear plate method using plate count agar, with incubation temp. of 25 or 35°C. A total of 112 strains were isolated at 25°C and 118 strains at 35°C. Bacterial counts of samples incubated at 25°C were 10^4-10^6/g; counts at 35°C were generally lower. Gram-negative rods dominated the microflora at 25°C; at 35°C, the proportion of Gram-positive organisms in the isolates increased chiefly because of the disappearance of Pseudomonas and Vibrio spp. The growth of these isolates at 5°C was also investigated. AJDW

15

Epidemic vomiting.
Smith, H. C. T.
Journal of Hygiene **73** (3) 445-455 (1974) [20 ref. En] [Health Dept., Gosforth Urban District, Northumberland, UK]

Two outbreaks of epidemic vomiting are described. One affected 107 students and staff at a college of education out of a total of 398 persons. The other affected 172 pupils and staff out of 357 at a secondary school. Evidence is presented that in both cases infection was acquired in the dining hall of the institution concerned but no specific item of food was found as a likely cause. The literature is reviewed. Possible mechanisms of spread are suggested. AS

16

[Economic consequences of the use of processed food for preparing meals in institutionalized catering establishments.]
Imbs, B.; Endler, M.
Przemysl Spozywczy **28** (10) 438-440 (1974) [Pl, ru, en, fr, de] [Katedra Ekonomiki i Organizacji Przemyslu ART, Olsztyn, Poland]

17

15 000 meals take to the air each day.
Anon.
Food Industries of South Africa **26** (11) 2-3, 5 (1974) [En]

In S. Africa 3 main concerns cater for all airline needs: South African Airways; In-Flite Caterers; and Skychef. These prepare 15 000 meals/day. Basic requirements of an airline kitchen, supplies of raw materials, menus and other aspects of airline catering are considered. VJG

18

Countrywide catering system feeds thousands a day.
English, M.
Food Industries of South Africa **27** (2) 10-11 (1974) [En]

A description is given of catering on South African Railways. Kitchen personnel prepare an average of 12 000 meals a day throughout the country. VJG

19

[Preserved products for use in communal feeding.] Konservirovannye produkty dlya obshchestvennogo pitaniya. [Book]
Anon.
199pp. (1973) [30 ref. Ru] Moscow, USSR; Pishchevaya Promyshlennost'. Price 1.26r

This book includes the following chapters: Research into the production of convenience foods and semi-preserved products in large packages for use in communal feeding enterprises (pp. 7-27); Research into the manufacture of quick frozen vegetable dishes to be used in communal feeding (pp. 27-39); Microbiological control of preserved foods in large packages (pp. 40-49); Microbiological aspects of canned vegetables production for communal feeding (pp. 49-56); Mechanized line for the production of sterilized food products in large packages (pp. 57-65); Prospects for use of fruit products and quick frozen semi-preserved products in communal feeding (pp. 66-71); Heat sterilization methods for the preservation of fruit and vegetables in large packages (pp. 77-99); Sterilized baby food based on fruit and vegetables (pp. 100-110); Principles of production and storage of frozen products (pp. 111-140); Frozen ready-to-serve dishes (pp. 141-144); Equipment for industrial production of convenience foods, for defreezing and heating of frozen meals (pp. 145-158); and Use of frozen semi-products and ready-to-serve dishes in communal feeding (pp. 159-169). STI

20

[Technological aspects of industrial manufacture of dietetic meals.]
Beentjes, P. A.
Voeding 35 (11) 585-594 (1974) [Nl]

Aspects considered in this discussion of industrial manufacture of dietetic foods (products for diabetics, foods of modified consistency and foods for low-Na, low-fat, low-calorie or low-cellulose diets) include: standardization of industrially-prepared dietetic foods; nutritional oof dietetic foods; calorie, protein, fat, carbohydrate and Na concn. in various dietetic foods; altered recipes and raw materials required in the manufacture of dietetic foods; herbs and spices in dietetic foods; use of dietetic foods in institutional catering; standardization of pack dimensions; selection of methods for heating of dietetic foods; and preservation methods for dietetic foods. AJDW

21

[Researches on sanitary conditions of gastronomic products.]
Aubert, S. d'; Persiani, G.; Cantoni, C.
Archivio Veterinario Italiano 25 (1/2) 29-38 (1974) [10 ref. It, en, fr, de] [Istituto di Ispezione degli Alimenti di Origine Animale, Univ., Milan, Italy]

Microbiological examinations were made of commercial samples of ready-prepared and convenience foods comprising salads (fish 13, Russian 13, chicken 7, rice 4), ham and veal (15), pates and jellies (10), shellfish and marinated fish (9) and fish with mayonnaise (12). Results are tabulated for individual samples of numbers/g of total microorganisms, lactobacilli, micrococci, coliform organisms, faecal streptococci, Staphylococcus aureus and yeasts; standard media and techniques were used. Changes in the microbiological flora during storage of samples at 2-5°C for 10, 20 and 30 days are also recorded. Experimental inoculations of 1250 Escherichia coli/g and 5000 Staph. aureus/g into mayonnaise (pH 4.5) followed by storage for 3, 7, 15 and 21 days indicated that the former is inable to multiply and the latter disappeared. It is concluded that lactobacilli predominated in the products studied and that enterotoxic organisms were absent. Some samples exceeded the permitted max. content of sorbic acid. ELC

22

Rösti, a new industrially prepared potato food product. [Conference proceedings]
Wiertsema, P.
IV International Congress of Food Science and Technology 8a, 91-93 (1974) [En] [Inst. for Storage & Processing of Agric. Produce, Wageningen, Netherlands]

An industrial process is described for producing deep-frozen Rosti, a traditional Swiss potato dish. Short descriptions are given of the various stages in processing. RM

23

[The suitability of frozen fish products for use in communal catering.] Zur Eignung tiefgefrorener Fischgerichte für die Gemeinschaftsverpflegung.
Reinacher, E.
Informationen für die Fischwirtschaft 21 (6) 162-166 (1974) [De] [Inst. für Biochem. und Tech., Hamburg, Federal Republic of Germany]

A brief account is given of studies on the suitability of frozen (i) fish gingers (produced by 3 manufacturers), (ii) breaded fried fish fillets (produced by 3 manufacturers) and (iii) stewed fish in sauce (produced by 2 manufacturers) for use in communal catering. Storage and cooking variables studied were: cold storage for 4 wk-6 months before use; cooking from the frozen state, or after thawing at 4°C for 20 h; heating in a convection oven (to core temp. of 70° or 90°C) or in a deep-fat frier; heating with or without removal of the lid from the pack; and holding for 30 or 60 min at 80°C after cooking. Quality characteristics evaluated were flavour, consistency and appearance. Heating in a convection oven was unsatisfactory for (i) and (ii), due to atypical flavour and consistency of the coating. Heating was non-uniform, especially if the lid was not removed. Quality was adversely affected by pre-thawing and by holding at 80°C after cooking. Heating of (iii) to a core temp. of 90°C resulted in coagulation of the sauce. AJDW

24

[Production of pasteurized, sterilized and frozen meat dishes and ready-to-eat meat dishes, soups, sauces and salads with milk protein.] Zur Herstellung von pasteurisierten, sterilisierten und tiefgefrorenen Fleischgerichten und Fleischfertiggerichten, Suppen, Sossen und Salaten mit Milcheiweiss.
Pfaff, W.
Fleischwirtschaft 54 (11) 1740-1749 (1974) [23 ref. De] [8204 Brannenburg/Inn, Bahnhofstrasse 98, Postfach 45, Federal Republic of Germany]

Nutritional, organoleptic, technological and legal aspects of industrial production of ready-to-eat dishes including low-carbohydrate and low-calorie dishes with milk protein as fat stabilizing and thickening agents are discussed. RM

25

The influence of rotary sterilization on some thermolabile components of ready-finished foods. [Conference proceedings]
Sorman, L.
IV International Congress of Food Science and Technology 7a, 16-18 (1974) [En] [Dept. of Food Chem. & Tech., Fac. of Chem., Slovak Tech.

Univ., Bratislava, Czechoslovakia]

A new rotary sterilizer for ready-to-use foods is compared with the conventional can sterilizer in respect of relative effects on organoleptic properties, thermal destruction of B group vitamins and contents of total and individual carbonyl compounds (22 peaks by gas chromatography), ammonium N, H_2S, -SH groups, creatine and creatinine. Rotary sterilization gave lower contents of the above compounds except -SH groups, which were higher; appearance, colour and absence of burning was better after rotary sterilization, although the conventional process produced a stronger taste. ELC

26

[Heat-sterilization of menu components in flexible films.] Hitze-Sterilisation von Menü-Komponenten in flexiblen Folien.

Schott, O.; Pfeiffer, H. J.; Törber, D.

Verpackungs-Rundschau **25** (Sonderausgabe 17) , 18-24 (1974) [16 ref. De, en, fr]

Packaging of prepared meals and individual meal components (especially meat products) in sterilizable plastics films is discussed, with reference to: basic microbiological principles of heat sterilization; heat transfer during sterilization in flexible packs (with reference to heat transfer by conduction, and differences from heat transfer during retorting of rigid packs); and temp. changes during sterilization (with reference to effects of pack shape and pack contents). IN

27

Acceptability of selected convenience chicken products.

Farthing, M. A. C.

Dissertation Abstracts International, B **35** (4) 1770: Order No. 74-22011 (1974) [En] [Univ. of North Carolina, Greensboro, North Carolina, USA]

The acceptability of frozen pre-cooked (i) chicken apple fritters, (ii) chicken breast fillets, and (iii) chicken patties were evaluated by 2 taste panels of older adults and a consumer panel. (iii) was preferred by all panels, and (i) was given a higher rating than (ii) except for flavour. The consumer panel found all products somewhat less acceptable than did the other 2 panels. AL

28

Food service equipment selection, arrangement, and use. [Book]

Jernigan, A. K.; Ross, L. N.

vii+122pp. ISBN 0-8138-0550-3 (1974) [34 ref. En] Ames, Iowa, USA St. Univ. Press [Nutr. & Dietary Management Div., St. Dept. of Health, Iowa, USA]

This book provides information on the selection, placement and use of food service equipment for efficient operation. It should be of use to architects, engineers, dietitians, food service directors and consultants, administrators and other responsible for the selection of equipment for restaurants, hospitals, schools and health care facilities. The following chapters are included: Planning goals (pp. 3-8); Construction factors (pp. 9-20); Receiving and storing food (pp. 21-26); Space determination and layout: food preparation area (pp. 27-29); Food preparation equipment (including ovens, steam cooking equipment, mixers and attachments, cooking units, refrigeration units, freezing systems, tables, carts, and accessories, convenience systems) (pp. 30-66); Space determination and layout: food serving area (pp. 67-69); Serving equipment (pp. 70-94); Cleaning and sanitizing equipment (pp. 95-105); Making the system function (pp. 106-115). VJG

29

The nutritional contribution of foods served in public secondary schools in Metropolitan Manila.

Lingao, A. L.; Guzman, P. E. de; Tan, R. H.; Abdon, I. C.; Rosario, T. B. del; Soriano, M.

Philippine Journal of Nutrition **27** (1) 11-19 (1974) [17 ref. En]

The nutrient content of foods served in school canteens in the Metropolitan Manila area was determined and the serving portion values evaluated against Recommended Allowances. Methodology used included a 3-day dietary survey together with chemical analyses of food samples. Suggestions on how the existing feeding programme can provide better quality foods for school children are given. AS

30

[Public catering from the hygienist's viewpoint.] Gemeinschaftsverpflegung aus der Sicht des Hygienikers. [Lecture]

Seeliger, P. R.

Ernährungs-Umschau **21** (12) 375-378 (1974) [3 ref. De] [Inst. für Hygiene und Mikrobiol., Univ., D-87 Würzburg, Federal Republic of Germany]

This lecture presented at a meeting of the German Nutrition Society (DGE) in Kiel in July 1974, deals with hygienic hazards and hygiene requirements in public catering and considers Salmonella infections, and food poisoning due to staphylococcal and Clostridium perfringens enterotoxins, as well as to other bacterial or fungal toxins. SKK

31

[Prepared meals - microbiological aspects.] Fertig-Gerichte - Mikrobiologische Aspekte. [Lecture]
Schmidt-Lorenz, W.
Deutsche Lebensmittel-Rundschau **71** (1) 13-19 (1975) [54 ref. De] [Eidgenössische Tech. Hochschule, Zürich, Switzerland]

Aspects considered in this discussion of the hygienic quality of prepared foods include the following: microbiological and hygienic requirements during the manufacture, packaging, distribution and storage of prepared foods; the hygienic quality of foods for consumption shortly after preparation; the hygienic quality of preserved foods (e.g. canned, dried, freeze-dried and frozen products); and the hygienic quality of prepared foods of limited shelf-life (e.g. pasteurized or cold-stored products). AJDW

32

[Study of the quality of quick frozen ready-to-serve dishes during storage.]
Anisimov, B. N.; Blagova, R. N.; Gurova, L. A.; Pavlova, L. S.; Tikhomirova, T. A.; Cherkasova, L. P.
Trudy, Vsesoyuznyi Nauchno-issledovatel'skii Institut Konservnoi i Ovoshchesushil'noi Promyshlennosti **21**, 17-23 (1974) [3 ref. Ru]

Changes in the quality of frozen ready-to-serve dishes were studied, including: meat soup (solyanka), steak with onions, stewed meat with prunes, roast meat and smoked fish in tomato sauce. The products were frozen at -25°C for 5-6 h, then stored at -18°C. Following thawing and warming the quality was assessed according to DM content, pH, total acidity (titratable), acidity and peroxide numbers of the fats, amino acids composition, content of oxidation products reacting with thiobarbituric acid and fatty acids composition. Moisture content, pH and titratable acidity did not change appreciably during 12 months storage. Gradual quality deterioration was caused mainly by oxidation of fats in the product. It was concluded that quick frozen dishes could be stored for 9-12 months at -18°C without considerable changes in the quality of the product. Considerable oxidation changes were found in solyanka lipids, which contained a large quantity of unsaturated fatty acids. STI

33

[School feeding.]
Peshkova, M. G.; Shornikova, N. M.
Trudy, Vsesoyuznyi Nauchno-issledovatel'skii Institut Konservnoi i Ovoshchesushil'noi Promyshlennosti **20**, 13-19 (1974) [Ru]

To improve and speed up the preparation of school meals (breakfasts, lunches and snacks) recommendations are made for inclusion of various kinds of canned vegetables and fruit and also in the future quick frozen foods, to ensure a high nutritive value and god flavour. A survey of canned vegetables, fresh or cooked vegetables, fruit juices, vegetable juice, quick frozen meals, and quick frozen vegetable convenience foods, suitable for this purpose is presented. Examples are given of several alternatives for breakfasts and lunches prepared with the use of recommended quick frozen convenience foods and ready-to-serve meals. STI

34

Nutrient losses in institutional food handling.
Head, M. K.
Journal of the American Dietetic Association **65** (4) 423-427 (1974) [18 ref. En] [Dept. of Food Sci., N. Carolina St. Univ., Raleigh, N. Carolina, USA]

In order to investigate nutrient losses during preparation, distribution and serving in school kitchens, hot and cold foods were sampled during two 5-day periods (i) at the commissary awaiting distribution and (ii) during service of lunches at 6 schools served by the commissary. Composites of cold and hot foods were analysed for (i) ascorbic acid, (ii) thiamin, (iii) riboflavin, (iv) Ca and (v) Fe. Analysis of variance showed significant loss of (i) from hot foods and of (ii) from cold foods. (v) loss closely approached significance in hot and cold foods in one composite and in hot foods in the other. Individual food items (green beans, soup, carrots, steak, spaghetti and sauce and salad) were analysed for (i), (ii), (iv), (v) and crude N. On a wet basis, (i) showed a consistent loss from before preparation to after service except for salad. Except for spaghetti and sauce, (iv) and (v) levels remained the same or increased (the increase being explained by loss of water or fat). There were indications that the period immediately after opening a can of vegetables was critical. VJG

35

[Profitability analysis of involvement of breweries in the catering industry.] Wirtschaftlichkeitsanalyse der Brauereigastronomie.
Becker, J.
Brauwelt **115** (15) 440-443, 446, 448-449 (1975) [De] [Roland Berger GmbH, Munich, Federal Republic of Germany]

Trends in the structure and turnover in the catering industry are discussed, with special reference to the importance of the catering industry as a sales outlet for beer, and various forms of financial involvement of breweries. A procedure for evaluation of the profitability of involvement in various sectors of the catering industry is described, with special reference to turnover, capital investment required, the probable return on investment, and profit threshold analyses. AJDW

36

[Recommendations for minimum requirements for the quality of packs for foods. IX. Sterilized and pasteurized prepared meals.] Empfehlungen für Mindestanforderungen an die Beschaffenheit von Lebensmittelverpackungen. IX. Sterilisierte und pasteurisierte Fertiggerichte.
Anon.
Verpackungs-Rundschau **24** (9) (Tech. Wiss. Beil.) 73-76 (1973) [8 ref. De]

Recommended quality requirements for packaging of prepared meals preserved by pasteurization or sterilization are discussed with reference to: special characteristics of the product (susceptibility to microbial spoilage, surface drying and adverse effects of exposure to light and O_2); required characteristics of the packaging material (opacity, O_2-impermeability, mechanical strength, sealing properties, lack of adverse effects on the flavour or aroma of the product); requirements for the characteristics of rigid, semi-rigid and flexible packs; and the required storage conditions and max. shelf-life of prepared meals in various types of pack. [See also following abstr.] AJDW

37

[Recommendations for minimum requirements for the quality of packs of foods. IXa. Testing of light-weight or flexible plastics or plastics/Al laminate containers for sterilized and pasteurized prepared meals.] Empfehlungen für Mindestanforderungen an die Beschaffenheit von Lebensmittelverpackungen. IXa. Prüfung von Leichtbehältern und Weichpackungen aus Kunststoff und Kunststoff-Aluminium-Verbunden mit sterilisierten und pasteurisierten Fertiggerichten.
Anon.
Verpackungs-Rundschau **26** (2) (Tech.-wiss. Beil.) 17-18 (1975) [2 ref. De]

Brief details are given of a quality control and testing system for prepared meals in plastics or laminated packs, including: holding the pasteurized sterilized packs for a 'quarantine' period (e.g. 4 wk at 20°C or 2 wk at 30°C); regular testing of the efficiency of sealing of the packs; chlorination of water used for cooling of the packs after heat treatment; detn. of the mechanical strength of sample packs; and bacteriological tests. [See also preceding abstr.] AJDW

38

[Effect of long-term storage conditions on the quality of texturized freeze-dried dishes.]
Kudrova, R. V.; Anisimov, B. N.; Savel'eva, G. N.; Gurova, L. A.; Blagova, R. N.; Gerdauskene, L. L.
Trudy, Vsesoyuznyi Nauchno-issledovatel'skii Institut Konservnoi i Ovoshchesushil'noi Promyshlennosti **21**, 27-35 (1974) [6 ref. Ru]

The aim of this study was to establish long-term storage possibilities (from 12 to 24 months) for freeze-dried ready-to-serve dishes packaged in plastics films or metal cans. Mylar-polyethylene (PE) (du Pont) and Hostaphan-metal-Pe (Wolf) vacuum packs were used, with metal cans as control. The samples were stored at 22 ± 3%C (Mylar-PE) for 1 yr and at 2-6°C (metal cans, and both types of pack) for 2 yr. To improve the firmness of the dried texturized products, 0.25-1% gelatin was added to the product prior to drying. Freezing was at -18° to -20°C. During storage, 20 dishes were tested with regard to organoleptic properties; 4 of these (beetroot soup, pearl barley soup, pearl barley with tomato sauce and tvorog pudding) were subjected to physical and chemical analysis. On the basis of the results, it was found that meals in metal cans and Hostaphan-metal-PE (with vegetable parchment wrapping) maintained their quality for 24 months at 2-6°C. The quality of meals packaged in the Mylar-PE film declined after 9 months at 22 ± 3°C and after 18 months at 2-6°C. STI

39

[Refrigerated or frozen cooked meals: technology and hygiene. Present directives.] [Lecture]
Lebert, F.; Rosset, R.
Revue Generale du Froid **65** (11) 1127-1143 (1974) [33 ref. Fr] [Centre d'Etudes et de Recherches pour l'Alimentation Collective, 5 rue Mazet, 75006 Paris, France]

New regulations on refrigerated or frozen pre-cooked dishes were examined and applied to 3 types of products: pies produced by Gervais-Danone, vacuum-packed cooked meat meals by Fleury-Michon, and cooked meat, fish and vegetable dishes by Sepial produced by the Delphin process. Information is provided on production methods, including sanitary measures and results of microbiological and storage tests. When prepared under good technological conditions, hygienic quality and refrigerated storage stability of the products is very good. For consumer protection, refrigerated storage should be short. Frozen products must not be thawed before sale. RM

40

[School meals from industrial frozen menus.]
Schulverpflegung mit industriell hergestellten Gefriermenüs.
Stübler, E.
Alimenta **14** (2) 57-59 (1975) [De] [Bundesforschungsanstalt für Hauswirtschaft, Garbenstrasse 13, D-7 Stuttgart 7, Federal Republic of Germany]

The acceptability and nutritive value of industrial frozen school meals, and the effects of storage, heating and keeping warm were studied. 34% of the 108 dishes were very readily accepted (category A); 50% were good (category B). The recommended 30% of daily requirements was provided for proteins but not for fat, carbohydrates, vitamins A, B_1 and B_2 and Ca. Analytical results showed considerable deviations from calculated values based on tables. Most dishes could be satisfactorily stored for 5-6 months at -25°C. Heating at >70°C had adverse effects on appearance, chiefly of vegetables and starchy foods. Meals could be kept warm 30-60 min without sensory deterioration. Prolonged storage, heating at high temp. and keeping food warm caused reductions of B group vitamins and especially of ascorbic acid. RM

41

Food service facilities planning. [Book]
Kazarian, E. A.
vii+230pp. ISBN 0-87055-168-X (1975) [many ref. En] Westport, Connecticut, USA; AVI Publishing Co., Inc. Price $16 (US) $17 (Foreign) [School of Hotel, Restaurant & Institutional Management, East Lansing, Michigan, USA]

This book presents a systematic procedure for the planning of food service facilities. It is primarily intended as a text for classroom instruction, but should also be useful as a reference source for architects, food service consultants, interior designers and others involved in planning food facilities. Chapters included are: Introduction to food facilities planning (pp. 1-15, 7 ref.); The planning process (pp. 16-30, 6 ref.); The planning team (pp. 31-42, 4 ref.); Preparing the prospectus (pp. 43-57, 5 ref.); The feasibility study (pp. 58-72, 6 ref.); Planning of functions (pp. 73-86, 5 ref.); Planning the atmosphere (pp. 87-112, 5 ref.); Workplace design (pp. 113-126, 6 ref.); Equipment requirements (pp. 127-143, 7 ref.); Space requirements (pp. 144-154, 4 ref.); Layout of facilities (pp. 155-167, 5 ref.); and Example food service layouts (pp. 168-190). 3 appendices are included: Typical portion sizes for menu items (pp. 191-192); Information for developing a food service prospectus (pp. 193-197); and Listing of tasks commonly performed in food service facilities (pp. 198-226). VJG

42

Fortifies donuts for 5 school programs.......sales up 20%.
Anon.
Food Processing **36** (3) 54 (1975) [En]

The 'Super Donut', produced by Prestige Donuts, Cincinnati, Ohio, is described. When consumed with a glass of milk, each doughnut provides about 1/3 of the US Daily Recommended Allowance of protein, vitamins A, B$_1$, B$_2$, B$_6$, C and niacin. Addition of vitamins has not affected the doughnuts' appearance, colour or flavour. AA

43

Milk quality in the New York public school system.
Bandler, D. K.; Brown, R. O.; Wolff, E. T.
Journal of Milk and Food Technology **38** (4) 223-226 (1975) [3 ref. En] [Dept. of Food Sci., Cornell Univ., Ithaca, New York 14850, USA]

A direct correlation was shown between the flavour and consumption of milk by school-age children. Surveys at 693 schools in New York State show a high incidence of off-flavoured milk, together with excessively high storage and serving temp. in the schools. Complaints by school lunch managers and children should become cause for concern by milk producers, processors and distributors. Research has also uncovered some basic problems in school milk sales: lack of information on the part of cafeteria workers, poor quality control by dairies, and questionable design of refrigeration equipment in the schools. In New York State, when school is in session, >10% of the Class I milk sales are made to schools. AS

44

[The effect of storage and heating of frozen ready-to-eat meals on the amino acids in the meat.]
Einfluss der Lagerung und Erhitzung von gefrorenen Fertiggerichten auf die Aminosäuren des Fleisches.
Rogowski, B.
Fleischwirtschaft **55** (3) 343-346 (1975) [17 ref. De, en, fr] [Bundesanstalt für Fleischforschung, 8650 Kulmbach, Blaich 4, Federal Republic of Germany]

4 deep-frozen ready-to-eat meat-based meals (Sauerbraten, Goulash, roast pork and fried sausage) were used in studies on the effects of 6 months cold storage, heating to 90°C instead of the recommended 70°C core temp. and keeping the food hot at 70°C for 1 h before eating on the concn. and availability of essential and other amino acids. In general, long storage and keeping the food hot caused decreases in the concn. and availability of all amino acids. Heating to 90°C caused a fall in amino acid concn. but an increase in availability. Of the essential amino acids, phenylalanine, tyrosine and isoleucine were most susceptible to damage and threonine was the most resistant. Concn. of tryptophan was too low to allow accurate observations. RM

45

Soy protein in foods: their use and regulations in the US. [Lecture]
Rakosky, J. (**United States of America**, American Oil Chemists' Society [Symposium])
Journal of the American Oil Chemists' Society **52** (4) 272A-274A (1975) [9 ref. En] [Chemurgy Div., Central Soya Co., Inc., Chicago, Illinois 60639, USA]

The use of soy proteins in food products was limited by taste, regulatory restrictions and prejudice. Improved technology led to better flavour and functionality. Problems encountered in making regulatory changes to accommodate consumer acceptance and demand for these soy products are discussed. Apparent trends in regulatory action are considered. The increasing importance of soy protein products in the US School Lunch Program is also stressed. [See also author index under **USA**, American Oil Chemists' Society [Symposium].] VJG

46

36.6% of food service menu items are prepared with frozen foods.
Katz, A.
Quick Frozen Foods 36 (9) 20, 22, 82 (1974) [En]

81% of US food service operations expect to use more frozen foods. The % of restaurant chains and of food service operators using 14 categories of frozen foods in 1973 is presented. >90% of fish and seafood used in the institutional market is frozen. Frozen fruit and cream pies surpass fresh-baked in food service usage. VJG

47

[Control methods for procedures of ready-to-eat meals.] Prüfmethoden für Fertiggerichte-Hersteller.
Tändler, K.
Fleischwirtschaft 55 (3) 292-293 (1975) [4 ref. De] [Bundesanstalt für Fleischforschung, 8650 Kulmbach, Blaich 4, Federal Republic of Germany]

The previously published "Recommendations for min. requirements on food packaging: sterilized and pasteurized ready-to eat meals" [FSTA (1974) 6 5F177] are complemented with methods for control of the efficiency of sterilization and pasteurization of ready-to eat meals in light-wt. containers and flexible packs made from plastics or plastics-Al laminate films, including both destructive and non-destructive methods. RM

48

[Corrosion of aluminium containers by pre-cooked frozen foods.]
Cantoni, C.; Merlino, P.; Maccapani, M.
Imballaggio 25 (221) 3-6 (1974) [28 ref. It] [Fac. di Med. Vet., Univ. di Milano, Italy]

The corrosion of Al containers during storage at +25° to -18°C was studied, using model solutions of 0.03-0.1 N acetic and citric acids with 0.2 N NaCl. Results, shown graphically and in tables, indicate that acetic acid is more corrosive than citric acid; and that corrosion is enhanced by NaCl and rise in temp., but reduced to very low levels by freezing, with none at all during the first 7 days of storage at -18°C. Although Al containers of frozen cooked foods containing acid salads were liable to corrode even at -18°C, this could be prevented by a plastics lining in the cans, or by consumption of the contents within 7 days of preparation. RM

49

[Nutritive value of deep-frozen school meals.] Nährwert tiefgefrorener Speisen für die Schulverpflegung. [Lecture]
Bognar, A.; Zacharias, R.
Mitteilungsblatt der GDCh-Fachgruppe Lebensmittelchemie und Gerichtliche Chemie 29 (1/2) 18-30 (1975) [27 ref. De] [Bundesforschungsanstalt für Hauswirtschaft, Stuttgart-Hohenheim, Federal Republic of Germany]

75.3% of meals consisting of 75 varieties of food delivered during the school yr (190 days) to 15 day schools by 4 manufacturers as deep-frozen multi-serving packs were analysed for moisture, protein, fat, ash, crude fibre, Na, K, Mg, Ca, Fe, Zn, Mn, Cu and P; as well as, in selected meals, vitamin A, thiamin, riboflavin, vitamin C, β-carotene and amino acid and fatty acid patterns. Carbohydrate content was calculated by difference. Mean values with ranges are tabulated and/or graphically presented, and comparisons are made between determined values and values calculated from tables of food composition. [See also author index under **Germany, Federal Republic of**, Gesellschaft Deutscher Chemiker [Symposium].] SKK

50

Heat-retaining capabilities of selected delivery systems.
Shea, L. A.
Journal of the American Dietetic Association 65 (4) 430-436 (1974) [14 ref. En] [Cornell Univ., Ithaca, New York, USA]

The heat-retaining capabilities of non-temp. controlled food service equipment were studied in order to provide dietitians with information about currently available delivery systems. Variables investigated were covers of different materials, insulated delivery systems of different materials, a room temp. plate vs. a heated plate, covers with a hole vs. covers without a hole, and the heated disc system. Results support the use of a pre-heated plate, of a plate cover especially in combination with a heated plate, and of plate covers made of stainless steel. The hole in the plate cover appeared to have no effect on heat retention. Of the 3 insulated systems investigated (fibre glass, plastic and poly-glass) the fibre glass system showed the best heat retention. The heated disc system showed relatively good heat retention in the first 18 min holding time, but insulated fibre glass was more effective over a longer period. Elapsed time before foods (meat loaf, mashed potatoes and diced carrots) in the 16 delivery systems reached unacceptable and unsafe temp. are listed. VJG

51

A growing industry in South Africa.
Jacobson, C.
South African Food Review 2 (2) 92-93, 111 (1975) [En]

Industrial catering is one of the fastest growing sectors of the food industry in South Africa. Centralized kitchens, which supply several outlets, have proved economical. Research has established that such a system can be operated satisfactorily in hospitals and schools and is now being used in canteens within large industrial firms. Nutritional values and palatability are good. Meals leaving the centralized kitchens may be hot and pre-packed or simply frozen and ready for reheating. The filling, sealing and freezing processes and the Al container together account for approx. 25% of the cost of the meal. A range of equipment has recently been completed which handles all aspects of the filling and packaging operation. GL

52

A cook-freeze catering system. [Lecture]
Phillips, J. G.
Food Technology in New Zealand 10 (2) 13, 15-16 (1975) [11 ref. En] [Chem. Div., DSIR, Petone, New Zealand]

Conventional and cook-freeze catering systems are described. Aspects considered include recipe rebalancing, bacteriological aspects, nutritional quality, wastage, equipment utilization, and labour saving. VJG

53

Boston's giant school commissary produces preplated frozen lunches.
Anon.
Quick Frozen Foods 36 (9) 32, 36-37 (1974) [En]

A description is given of food preparation at the 27 000 ft^2 Central Food Facility in Boston. The facility prepares, packages and freezes 6000 school lunches a day using 6 150-gal kettles, but its ultimate capacity is expected to be 200 000 lunches/day. After preparation in the central kitchen, the frozen, preplated lunches are delivered to schools. Entrees packaged in Al hot-pack trays are accompanied by cold-packs with dessert. The lunches meet Type A standards, providing at least one-third of the daily nutritional requirements for 10-12 yr olds. The facility has a blast freezer that freezes 35 000 meals in 2-h cycles in an 8-h day. VJG

54

Effect of thawing on growth of Staphylococcus aureus in frozen convenience food items.
Ostovar, K.; Bremier, M. J.
Journal of Milk and Food Technology 38 (6) 337-339 (1975) [11 ref. En] [Div. of Food Sci. & Ind., Pennsylvania St. Univ., University Park, Pennsylvania 16802, USA]

The appearance of convenience food items in the supermarkets and their consumption by wide segments of population has increased in recent years, and hence a study was done on presence of Staph. aureus in these items and possible growth of the organism during defrosting of the foods. Using different selective agar media (Baird-Parker, Vogel-Johnson, Tellurite-polymyxin-egg yolk, Mannitol-salt), various commercially available food items were examined. All suspected cultures were confirmed by coagulase test and Gram stain. Their enterotoxigenicity was also examined. Thawing the products at room temp. for 12 h generally resulted in a 2-log increase in Staph. aureus population. Presence of Staph. aureus was observed in 18.3% of beef and poultry products; 12.5% of seafood products; and 8.3% of ready-to-eat frozen desserts. Most isolates produced types A or B enterotoxins. Of the 4 selective agar media used, Baird-Parker was most efficient in isolating coagulase-positive staphylococci from frozen foods. AS

55

[A typhoid outbreak in Göttingen.]
Typhusausbruch in Göttingen 1974.
Terbeck, G.
Bundesgesundheitsblatt 18 (9) 149-152 (1975) [De, en] [Niedersächsisches Sozialmin., 3 Hannover, Hinrich-Wilhelm-Kopf-Platz 2, Federal Republic of Germany]

An outbreak of typhoid (involving 41 cases) at the University of Göttingen in May-June 1974 is described. All cases had consumed a meal consisting of grilled fish, potato salad and milk pudding in the new refectory of the University. The exact source of infection was not defined. Phage type E I a was isolated from samples from all the cases studied. Recommendations are given for hygienic measures in large kitchens. AS

56

[Lupin seeds as food.] Lupinesamen für die menschliche Ernährung.
Feldheim, W.
Umschau in Wissenschaft und Technik 75 (9) 280-281 (1975) [5 ref. De, en] [Inst. für Ernährungswissenschaft, Justus-Liebig-Univ., Giessen, Federal Republic of Germany]

The potential of lupin seeds for use as a food source is discussed, with reference to their high protein content (≤37%) and oil content (≤20%). The oil contains 75% oleic acid + linoleic acid. The first limiting amino acid in the protein is methionine. A major problem is the presence of toxic alkaloids in the seeds (≤0.35% by wt., DM basis). Low-alkaloid var. are, however, being bred, and processes for removal of the alkaloids are under development. A process for detoxification of lupun seeds by soaking is briefly described; the resulting lupin flour contains ≤62% protein, tastes pleasant and is suitable for incorporation in many prepared foods. It is suggested that lupins are a suitable protein and oilseed crop for areas where soybeans cannot be grown. AJDW

57

[Food poisoning as a result of consumption of food in catering institutions, on the basis of a 10 yr analysis.] Über Erkrankungen nach dem Genuss von Gemeinschaftsverpflegung auf Grund einer Analyse von 10 Jahren.
Lange, E.
Zeitschrift für die Gesamte Hygiene und ihre Grenzgebiete 20 (8) 480-482 (1974) [De, en, ru] [Hygiene-Inst. des Bezirkes Rostock, German Democratic Republic]

215 outbreaks of food poisoning (involving a total of 10 345 people) in the German Democratic Republic are discussed. The main sources of infection were meat and meat products (especially pork, beef and minced meat) and milk and dairy products (especially puddings and sauces). Non-specific food poisoning was more common than infection by the main food-borne pathogens. Small catering institutions had a higher incidence of food

poisoning than large institutions. The majority of outbreaks were attributed to avoidable errors in food prepration and/or handling, especially with pre-cooked foods. IN

58

Small schools can afford hot lunches, Massachusetts experiment proves.
Anon.
Quick Frozen Foods 37 (3) 55-56, 235 (1974)
[En]

The problem of serving hot food to small schools (≤150 pupils) has been solved by the Waltham School System, Waltham, Massachusetts, using frozen foods, Litton ovens and Differential Heating Containers. A description is given of the system used at Robbine Street School, Waltham, where 1 person can prepare meals for 140 children in about 1 h. A weeks supply of frozen preplated meals is received at the school and stored in freezers. Meals are taken from the freezer as needed, heated in microwave ovens, and then served to children at their desks. The system fulfills all the needs of a small school: max. use of space; low cost/student; food quality control; and simplicity of operation. VJG

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FAB 24

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H. BROOKES

ASSISTANT EDITOR

1

[Staphylococci in foods - a health hazard?] Staphylokokken in Lebensmitteln - ein gesundheitsgefährdendes Problem für den Konsumenten?
Bendig, J.
Ernährungsforschung **20** (1) 22-25 (1975) [De]
[Zentralinst. für Ernährung, Potsdam-Rehbrücke, German Democratic Republic]

The problem of food-poisoning attributable to staphylococcal enterotoxins is discussed, with special reference to its significance for catering institutions. Aspects considered include: factors influencing growth and toxin formation by staphylococci in foods; sources of contamination; foods commonly implicated in staphylococcal food poisoning; and hygiene measures to minimize the danger fo staphylococcal food poisoning. IN

2

Louisiana dairy adopts pouch package to serve school milk customers.
Anon.
American Dairy Review **37** (7) 22, 24 (1975) [En]

The change-over from cartons to plastics sachets for packaging school milk by Guth Daity Inc., Lake Charles is described, covering the launching of the plastics package (provided with a drinking straw) and resultant advantages (reduced packaging material costs, savings in refrigeration, reduction of waste disposal). The use of the system for packaging orange juice (in 4 and 6 oz sizes) for school breakfast and lunch is under consideration. FL

3

[The current position and trends in packaging of industrially-produced foods. I.] Gegenwärtiger Stand und Entwicklungsrichtungen beim Verpacken von Erzeugnissen der industriellen Speisenproduktion. I.
Dobberke, F.; Pomianowski, H.; Wissuwa, H.-W.
Verpackung **16** (4) 134-136 (1975) [7 ref. De]
[Zentralinst. für Verpackungswesen, Dresden, German Democratic Republic]

Packaging of prepared foods for domestic use or for catering institutions is discussed, with reference to: vegetable parchment-lined cartons; deep-drawn PVC containers (with an outer carton); Al or polyethylene plates for packaging of complete meals; polyamide bags; and packaging of blocks of frozen food in an inner layer of vegetable parchment or vegetable parchment/Al foil laminate and an outer layer of Kraft paper or polyethylene shrink film. Packs used for prepared foods in other countries are also briefly discussed. IN

4

How Chicago feeds its elderly poor.
Crocco, S.
Food Engineering **47** (6) 48-49 (1975) [En]
[Food Engineering, Box 2035, Radnor, Pennsylvania 19089, USA]

The administration of the HEW [Department of Health, Education & Welfare] Title VII Nutrition Program in Chicago is discussed. The programme aims to feed elderly poor people in government-financed cafeterias. In Chicago the Hagerty Catering Co., under contract to the city, provides 4000 portions of food/day. The meals, produced on a daily basis, are distributed from the firm's kitchens to >40 centres in the city. Regulations relating to the programme are discussed. JA

5

Rewards are many for company that learns how to feed school kids lunch.
Anon.
Food Engineering **47** (6) 54 (1975) [En]

The Mass Feeding Corp. (Elk Grove, Illinois) produces 1 million meals/wk in a government-sponsored programme which aims to feed poorly nourished school children. Market research is carried out regularly to assess children's likes and dislikes for certain foods. Food is cooked by batch and continuous methods, packaged on high-speed assembly lines, and quick-frozen by blast-freezing. The prepacked meals are then distributed to school systems and delivered to the schools. JA

6

Improving food service productivity. Convenience foods.
Thorner, M. E.
Cornell Hotel and Restaurant Administration Quarterly **16** (1) 59-63, 75, 80 (1975) [En]

The development of convenience foods and their increasing use in the food service industry are discussed. Advantages and disadvantages, and the various categories of convenience foods are listed. Conversion of food service operations from traditional to convenience foods is discussed. The recent emergence of garnishes as important accompaniments to entrees is also considered; they fall into 3 categories: those used solely for decoration, edible garnishes used for decoration, and those that form an integral part of the entree. Garnishing operations are outlined. JA

7

[Microbiological problems of partially and fully prepared products and ready to-eat meals.] Mikrobiologische Probleme bei Teil- und Vollzubereitungen und Fertiggerichten. [Lecture]
Mohs, H. J.
Alimenta **14** (5) 151-156 (1975) [29 ref. De]
[Forum Nahrungs- und Genussmittel-Handels- und Import-Gesellschaft mbH, Zentralabteilung für Qalitätssicherung, Produktentwicklung und

Verbraucherinformation, Besenbinderhof 43, D-2000 Hamburg, Federal Republic of Germany]

The technology, recommended storage conditions and times, and microbiological aspects of various types of precooked foods are reviewed. Measures to prevent contamination and reduced shelf-life and recommended, proposed microbiological guidelines for quality evaluation of uncooked deep-frozen, pre-cooked (up to 70°C) deep-frozen, cooked (>70°C) pasteurized, hot (thermophore products) and canned prepared dishes are tabulated. RM

8

[The bacteriological quality of ready-to-eat dishes.] Zur mikrobiologischen Situation bei Fertiggerichten.
Mantel, T.
Fleischwirtschaft 55 (3) 347-350, 353 (1975) [4 ref. De, en, fr] [Landesuntersuchungsamt für Gesundheitswesen, 8042 Oberschleissheim, Veterinärstrasse 1, Federal Republic of Germany]

The microbiological quality of 70 samples of ready-to-eat frozen meat-based dishes (produced by 3 manufacturers) was evaluated; the samples were thawed for 8 h at 3°C before testing. The total aerobic count and counts of Enterobacteriaceae, enterococci, Bacillus spp., micrococci, yeasts, Pseudomonadeaceae, lactobacilli, Clostridium perfringens and salmonellae were determined. Histograms are given showing the % of samples within preselected ranges of counts for each sp. or group of microorganisms studied. Only 4 samples (5.7%) exceeded the proposed max. total aerobic count (100 000/g). C. perfringens was detected in only 2 samples (at counts of 1-9.9 × 10^{1}/g); no salmonellae were detected in any of the samples. A high proportion of poultry products had Pseudomonadaceae counts >100/g. No effects of the method used for precooking of the meat, the presence or absence of vegetables or the pack type (foil trays or boilable bags) on microbiological quality were observed. The merits of microbiological test methods used are briefly discussed. AJDW

9

[Time/temp. conditions in handling and processing of foods in various types of large-scale catering establishments.]
Karlström, B.; Gustafsson, U.; Konradsson, L.
SIK Rapport No. 354, 28pp. (1974) [7 ref. Sv, en]

Studies on the temp. of various foods (potatoes, vegetables, meat products, fish) during cooking, warm-holding, transport and serving in large-scale catering establishments are described. Detailed studies were conducted in 2 hospitals (one operating a tray service, one a hot-trolley service); less comprehensive studies were conducted in 2 nursing homes, 3 schools and 2 cafeterias. Tables were held warm, and the temp. of the food at the time of serving; graphs are given showing temp. changes during cooking and holding. The results showed that foods were held warm for ≤7.5 h; food temp. commonly dropped below the lower limit of 60°C required by law in Sweden. Considerable differences in product temp. and cooking and holding conditions were observed between the establishments studied. Studies on convection-type ovens showed that temp. indicated by oven thermometers were higher than those actually measured in the ovens. AJDW

10

[Optimum sterilization temperatures for ready-to-eat dishes.] Optimale Sterilisationstemperaturen für Fertiggerichte. [Lecture]
Reichert, J.
Fleischwirtschaft 54 (8) 1305-1313 (1974) [50 ref. De] [2350 Neumünster, Tugendorfer Strasse 93a, Federal Republic of Germany]

Sterilization temp. for ready-to-eat dishes are discussed, with reference to: changes in food components during heat treatment; changes in the organoleptic properties; detn. of optimal temp. by means of F-, E- and C-values (bactericidal, enzyme inactivation and cook values); and heat inactivation and reactivation of enzymes. 2 methods of detn. of optimum sterilization temp. are described; the addition method and the graphical method [see SIK Rapport (1967) No. 220]. Effects of sterilization method and temp. (tower, stationary or rotary autoclaves, at 120-130°C) on heat damage to green bean stew were studied; tables and graphs of results are given. Sterilization in continuous tower autoclaves caused the greatest quality deterioration (E-value 244, C-value 190). In rotary autoclaves, C- and E- values decreased with increasing temp., suggesting an optimum sterilization temp. of 135-140°C, with rapid heating and cooling. Recommended optimum sterilization conditions for 24 products are given. RM

11

Kitchen hygiene - suggested code of practice for catering premises.
Simpson, J. B.
British Food Journal 77 (868) 140-141, 143 (1975) [En] [Environmental Health Office, Canterbury, Kent, UK]

12

[Packaging container for instant meals.]
Unilever NV
Netherlands Patent Application 7 409 853 (1975) [Nl]

A packaging container suitable for heating the contents in an oven or by immersion in hot water consists of a deep-frozen tray if heat-resistant plastics or thin Al foil, a foil cover or deep-drawn lid, and a removable cardboard casing. The open cardboard casing surrounds the base of the container up to its rim flange and is secured by two upwardly projecting lips which are folded around the flange following its contours. The ends of the lips which rest flat on the lid of the tray are secured by an outer snap-on lid. W&Co

13

[Controlled atmosphere storage of prepared cold meals.] Die CA-Lagerung von vorgefertigten kalten Speisen.

Wolf, W.; Spiess, W. E. L.; Jung, G.; Lai, J. F.; Gork, F. P.; Jungnickel, W.; Bomar, M. T.; Prochazka, E.

Berichte der Bundesforschungsanstalt für Ernährung No. 2, 99pp. (1975) [7 ref. De, en] [Karlsruhe, Federal Republic of Germany]

A series of studies on effects of controlled atm. storage for ≤88 h on the quality of prepared cold meals (sandwiches, salads, salmon, cold meat products, etc.) is described. 3 experiments were conducted: storage in 30-l. polyethylene containers (temp. 0.5-4°C; RH 95%; storage atm. air, N_2 + 0.05 or 0.5% O_2, or N_2 + 5 or 15% CO_2); storage in plastics laminate bags (temp. 0.5°C, RH 95%, storage atm. N_2 + 0.05% O_2); and storage and transport under practical conditions. Numerous tables of values are given for the microbiological quality and organoleptic properties (colour, shape, aroma, flavour, consistency) of the stored products. Max. storage lives for acceptable quality of the stored products are given. The effects of storage conditions on quality retention are discussed; the best quality retention was achieved by packaging in plastics laminate bags, storage at 0.5°C, and storage in atm. consisting of N_2 + 0.05% O_2 or N_2 + 15% CO_2. AJDW

14

Total feeding program for Arctic exploration crews.

Sharma, K. K.

Food Product Development 9 (2) 86 (1975) [En] [Phil's Industries of Canada Ltd., Calgary, Alberta, Canada]

A description is given of the development of food products for exploration crews engaged in Arctic work. Phil's Industries of Canada Ltd. produce meals formulated to withstand severe freezing, utilizing packaging that is durable and can be used as a boil-in-bag convenient preparation, and providing an average of 5200 cal daily with a balanced intake of nutrients. The menu is planned so that it would not repeat itself for a month. The packaged meals, are flash frozen in a cryogenic liquid freezing tunnel. The meals are reconstituted by placing packages in water at 160°F for 12 min. Other potential markets for this type of food are hospitals, nursing homes, food-service systems, and school feeding programmes. VJG

15

[Selective sterilization. Improving the quality of canned ready-to-eat meals.] Selektive Sterilisation. Möglichkeiten zur Qualitätssteigerung bei konservierten Fertiggerichten.

Eisner, M.

Gordian **75** (10) 298-300 (1975) [13 ref. De, en]

The detn. and use of the C_0 value (cook value, i.e. optimal cooked state) for ready-to-eat foods is reviewed. Z-values of 33°C and cooking losses at 1 min at 100°C were used to determine partial C_0 values between 67° and 135°C (tabulated). A series of tests with HTST rotation sterilization at constant sterilization effect (F_0 = 15) gave optimal results (cooking index 100%) at 18 min, 124°C for canned beans in tomato sauce). The combined use of C_0 and F_0 value for multi-component foods is discussed. RM

16

Method of handling foods.

Swanson, A. S.

United States Patent 3 911 156 (1975) [En]

Prepared foods containing ≤35% (by wt.) saturated and unsaturated fatty acids are frozen in a compartmentalized zone such as an ice cube tray, after which they are removed from the zone, separated from the fatty acid fraction and packaged in a plastics bag. Particular application is to meat and vegetables. IFT

17

[Investigation of dietetic meals preserved by heat treatment.]

Vetro, Z.

Konzerv-es Paprikaipar No. 6, 237-240 (1974) [Hu, de, ru] [Elemiszeripari Foiskola, Szeged, Hungary]

Formulations are given for the preparation and preservation by heat treatment for various ready-prepared dietetic meals (e.g. carrot with pork, pumpkin with pork, rice meals etc.) for persons suffering from cardiac, circulatory, liver, kidney and biliary diseases. The calculated calorific values, and the contents by analysis of protein, fat, carbohydrates and mineral substances of the products are tabulated. IF

18

Milk quality in the New York public school system. [Lecture]

Bandler, D. K.; Brown, R. O.; Wolff, E. T.

Dairy and Ice Cream Field **158** (8) 36, 38, 40, 42 (1975) [En] [Dep. of Food Sci., Cornell Univ., Ithaca, New York, USA]

A study designed to establish causes of complaints about school milk and pinpoint the problems that were limiting its acceptance was carried out during Feb. 1973 to June 1974, involving 693 on-site visits to a random selection of the 5500 school buildings in 734 New York State school districts. Major complaints were leaking and incorrectly filled cartons, charred difficult-to-open cartons, frozen milk and off-flavours. More than one-third of the milk was at ≥7.2°C when served, the type of refrigeration equipment having little effect on serving temp. Some excessive temperatures were due to condition of the milk on delivery; tests showed that almost 50% of the milk on arrival at the schools was at ≥7.2°C. Milk consumption was related to flavour score, being highest (90.4% of students drinking milk) when the score was 38-40 and lowest (57.5% drinking milk) when the score was ≤37. In flavour analyses most samples of school milk (78.7%) were graded as 'fair or good' (score 37-39), 15.3% poor (score 36) and 6.0% excellent (score 40); cowy, cowshed and

unclean were the major flavour defects. In Metropolitan N. Y. City the % of students drinking milk was highest in elementary schools (70.6), intermediate in junior high schools (45.6), and lowest in high schools (42.0), whilst in the Upstate area where milk tended to be better the average daily purchases were fairly constant for all age groups (82.8, 76.1 and 78.5% respectively). FL

19

New mass catering system helps retain nutrients.
Anon.
Food Industries of South Africa Aug., 20 (1975) [En]

A catering system, developed by Neff Werke, Germany, is described; small quantities of food are cooked and frozen, then being available for reheating at short notice. Installations operating in S. Africa are briefly described. JRR

20

Hospital food quality as affected by freezing rate.
Vanderstoep, J.; Palmer, M. J.; Kitson, J. A.
Canadian Institute of Food Science and Technology Journal 8 (3) 126-128 (1975) [7 ref. En, fr] [Dep. of Food Sci., Univ. of British Columbia, Vancouver, British Columbia, Canada]

The effect of freezing rate on quality of frozen prepared food stored for ≤3 months was studied. Items used were (i) chicken breasts, (ii) meat loaf, (iii) macaroni and cheese sauce, (iv) stroganoff, (v) souffle and (vi) vanilla pudding. Freezing regimes were: blast freezing, (BF) at -40°C, air velocity 850 ft/min; plate freezing (PF), coil temp. -30°C; and still-air freezing (SF), ambient temp. -26°C. Reheating after 10 wk storage at -26°C was by forced air convection oven. A trained 8 member panel assessed degrees of difference in acceptability between the 3 treatments at one sitting, or in another similar experiment rated the 3 samples for appearance, odour, texture, flavour and overall acceptability. No significant differences ($P > 0.05$) were found by the first assessment method, and only the texture of souffle was scored significantly differently in the second. Souffle frozen by SF was rated <BF and PF. JRR

21

The idea, which became a world-project. [Lecture]
Rausing, H.
Nordeuropaeisk Mejeri-Tidsskrift 41 (9) 307-314 (1975) [En, Da, De] [Tetra Pak AB, Lund, Denmark]

The author deals with developments in the Tetra Pak system of milk packaging and the effects of aseptic packaging on distribution and products development. He mentions aseptically packaged soybean milk produced in S. E. Asia, Brasilian school milk based on soy protein and having chocolate taste, and the possibility of hydrolysing lactose in UHT milk with lactase for consumption by populations suffering from lactose intolerance. FL

22

Method for reconstituting frozen food.
Foster, L. H.
United States Patent 3 920 859 (1975) [En]

Pre-cooked frozen food is reconstituted by air heating at controlled varying temp. with periodic reversal of the air flow direction. IFT

23

[Studies of the quality of deep-frozen meals for use in school catering.] Untersuchungen über die Qualität tiefgefrorener Speisen für die Schulverpflegung. [Lecture]
Zacharias, R.; Bognar, A.
Ernährungs-Umschau 22 (2) 36-41 (1975) [20 ref. De, en] [Inst. für Hauswirtschaft, Bundesforschungsanstalt für Ernährung, Stuttgart-Hohenheim, Federal Republic of Germany]

This study covered a total 108 hot dishes based on meat, fish, eggs, vegetables, starchy supplements and hot-pots served in 15 day schools. Mean values and ranges are tabulated for portion size, contents of protein, fat, carbohydrate and calories/portion; mean values are tabulated for losses of thiamin (11 dishes), riboflavin (5 dishes) and ascorbic acid (9 dishes) from frozen dishes after keeping at 80°C for 30 and 60 min, and data for contents of these vitamins in the same dishes on reaching an internal temp. of 70°C are graphically presented. A further table presents % distribution of the meat, fish, egg, vegetable, potato, pasta and rice dishes and hot-pots among 4 grades of organoleptic evaluation (from good to barley acceptable or unaccetable. It is concluded from these tests that deep-frozen dishes are suitable for school catering and that a storage life of 5-6 months at -25°C is possible for most dishes. SKK

24

Morton develops total 'food+ service' system for schools.
Cavanagh, R. J.
Food Processing 36 (9) 28-29 (1975) [En]

A food service system suitable for schools, developed by Morton Frozen Foods, is described. Meals are prepared conventionally, and the components divided into hot- and cold-served items. These are placed on aluminium and plastic trays respectively for freezing and storage. For serving, hot portions are heated to 160°F in an oven, and cold ones are thawed to a temp. of 50°F, both on trolleys which are subsequently used for self-service, thus eliminating individual meal handling. JRR

25

[Nitrate and nitrite contents of prepared meals in relation to the nitrate content of drinking water.]
Nitrat- und Nitritgehalt von fertigen Speisen in Beziehung zum Nitratgehalt des Trinkwassers.
Selenka, F.; Brand, E.
Zentralblatt für Bakteriologie, Parasitenkunde, Infektionskrankheiten und Hygiene, IB 161 (3) 266-279 (1975) [32 ref. De, en] [Hygiene-Inst., Johannes Gutenberg-Univ., Mainz, Federal Republic of Germany]

In view of the carcinogenic properties of nitrosamines and the possibility of nitrosamine formation in the digestive tract from ingested nitrate and secondary amines, in the presence of reducing bacteria, the effect of the nitrate content of drinking water on the amounts of nitrate and nitrite in prepared foods, and the quantities consumed at each meal, were studied. Restaurant meals which had been served without previously informing the owner, and samples of the water supply from the same establishments, were analysed for nitrate and nitrite in the various components. Nitrate contents of the drinking water in the four regions studied averaged <1, 19.5, 35.6 and 130 mg/l., while the amounts of nitrate ingested per meal were 46, 67, 45 and 67 mg, respectively; corresponding figures for nitrite intake were 1.4, 2.0, 1.5 and 2.8 mg/meal. Thus nitrate consumption in the principal meal in an area with 130 mg NO_3^-/l. in the water supply was only 1.4 × that in an area with a water supply practically free of nitrate; the corresponding nitrite intake however was double that in the nitrate-free area. Average nitrate concn. (NO_3^-/kg) in potatoes (94 mg), salads (109 mg) and vegetables (99 mg) were double those of soup and meat portions (50 and 58 mg, respectively). [Continued in following abstr.] BDH

26

[Nitrate and nitrite contents of prepared meals in relation to the nitrate content of drinking water.]
Nitrat- und Nitritgehalt von fertigen Speisen in Beziehung zum Nitratgehalt des Trinkwassers.
Selenka, F.; Brand, E.
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[Continued from preceding abstr.] The nitrate content of the water supply affected only the amounts of nitrate in soups and meat (a 4-fold increase in the area with 130 mg NO_3^-/l. in the water relative to the nitrate-free supply). In contrast, the nitrite levels (NO_2^-/kg) were highest in soups and meals (4.7 mg and 3.5 mg), decreasing to 2.5 mg in potatoes, 1.8 mg in vegetables and 1.4 mg in salads. The values obtained are considered representative of those for the population as a whole. BDH

27

Planning for food protection during the Bicentennial celebration in the nation's capital.
[Lecture]
Walker, B., Jr.; Beck, R. N.
Journal of Milk and Food Technology 39 (2) 125-127 (1976) [En] [Dep. of Environmental Services, Environmental Health Administration, Gov. of the District of Columbia, Washington, DC 20002, USA]

The potential for foodborne disease outbreaks is increased during mass feeding activities and periods in which food services are overtaxed; this is a major concern of health agencies throughout the USA as they prepare for the Bicentennial celebration. As the District of Columbia government has had some experience in planing food protection services for intense activities generated by large influxes of people, it has developed a comprehensive food protection programme in preparation for the Bicentennial activities. Included in the District government's plans is the implementation of a 'self-inspection' programme to be conducted by trained and certified food service workers in selected food service establishments throughout the city. While the District government cannot guarantee that no foodborne diseases will occur during the Bicentennial celebration, the food protection programme will maximize its efforts to ensure that consumes are protected against foodborne health hazards. AS

28

Two methods for instructing personnel about food service sanitation.
Rinke, W.-J.; Brown, N. E.; McKinley, M. M.
Journal of the American Dietetic Association 67 (4) 364-367 (1975) [10 ref. En] [Dep. of Inst. Management, Iowa State Univ., Ames, Iowa, USA]

29

Microbiology and hospital feeding systems.
[Lecture]
Kundsin, R. B.; Bodman, H. A.
Journal of Milk and Food Technology 39 (3) 197-199 (1976) [6 ref. En] [Peter Bent Brigham Hospital, Boston, Massachusetts 02115, USA]

Food service in a hospital involves close collaboration of physicians, dietitians, and microbiologists. The hygienic environment recognized as essential for patient care areas is equally essential for food preparation areas. The food preparation for critically ill patients with individualized nutritional requirements involves not only house diets and their modifications, but food fed in highly specialized ways such as tube feeding via nasogastric tube and hyperalimentation parenterally infused. Opportunities exist for microbial contamination in these unique situations which require alert microbiologic intervention for patient protection. AS

30

Assurance of microbiological safety in a university feeding system. [Lecture]
Solberg, M.; Miskimin, D. K.; Kramer, R.; Riha, W. E., Jr.; Franke, W. C.; Buchanan, R. L.; O'Leary, V.; Berkowitz, K.
Journal of Milk and Food Technology **39** (3) 200-205 (1976) [En] [Dep. of Food Sci., Cook Coll., Rutgers State Univ., New Brunswick, New Jersey 08903, USA]

A sanitation surveillance system was developed with standards and follow-up actions as part of an assurance programme for microbiological safety in a university feeding system. The surveillance is based upon an adhesive contact and transfer tape system for surface monitoring and a micropore filter system for monitoring efficiency of the associated laundry operation. Results compiled from 3 yr of operation generally show continued reductions in numbers of items testing below fully satisfactory. Specific systems of microbiological data analysis for detection of some mechanical or procedural breakdowns were developed. The overall cost for the entire laboratory part of the food safety assurance programme was <0.5 cent/meal served. AS

31

Proceedings of the spring 1975 meeting. Theme: perspective 1975. [Conference proceedings]
United States of America, Research & Development Associates for Military Food & Packaging Systems Inc.
Activities Report **27** (2) iii + 207pp. (1975) [many ref. En]

This report of the proceedings of the spring 1975 meeting of the Research and Development Associates for Military Food and Packaging Systems Inc., held on April 8-9, 1975, at the Biltmore Hotel, New York, is divided into 5 sessions: Subsistence - an overview (pp. 2-33); The strategic material - protein (pp. 34-67); The flavour of things to come (pp. 68-89); Food service (pp. 90-160); and Point of empasis - packaging (pp. 162-200). Individual papers include: Subsisting the armed forces - the technological squeeze, by D. E. Wescott (pp. 2-6); Subsistence technology - a potential solution to world hunger, by L. E. Slater (pp. 7-11); Update on good manufacturing practices, by I. I. Somers (pp. 12-18); The FDA and good manufacturing practices, by R. M. Schaffner (pp. 19-24); New developments in instant coffee, by R. F. Howland (pp. 25-33, 2 ref.); Factors affecting the shelf life of fish, by L. J. Ronsivalli & J. J. Licciardello (pp. 34-43, 22 ref.); Soy proteins - 1975, by L. Sair (pp. 43-51); Changing patterns in beef production, by D. A. Magill (pp. 52-60); Are proteins really food, by S. Hanson (pp. 57-67); The meat flavour that is no bull [hydrolized vegetable protein], by H. P. Haldt (pp. 68-70); Maltol and ethyl maltol: their sugar-sparing and flavour-enhancing effects, by R. F. Smiles (pp. 83-89, 6 ref.) [Continued in following abstr.]. AL

32

Proceedings of the spring 1975 meeting. Theme: perspective 1975. [Conference proceedings]
United States of America, Research & Development Associates for Military Food & Packaging Systems Inc.
Activities Report **27** (2) iii + 207pp. (1975) [many ref. En]

[Continued from preceding abstr.] Implications of the Travis Air Force base food system study, by N. D. Heidelbaugh & R. M. Merwin (pp. 90-96, 11 ref.); The dynamics of the food service industry, by W. C. Hale (pp. 111-121); Newly available time-temperature indicators for refrigerated and frozen foods, by R. J. Witonsky (pp. 122-136, 5 ref.); New processing opportunities with rigid metal trays, by S. A. Mencacci (pp. 143-152); Protective packaging for food products, by J. H. Dively (pp. 153-160); Packaging - a vital link in the world food chain, by R. L. Joosten (pp. 162-167); Commercial packaging for the military, by J. P. Akrep (pp. 168-172); Organic coatings - the key to the appropriate package, by G. W. Gerhardt (pp. 173-178); and Disposability ratings of packaging materials used aboard US naval ships, by H. E. Achilles (pp. 179-200, A-1, A-2, 19 ref.). A further 3 papers are abstracted separately and are in the author index under **United States of America**, Research & Development Associates for Military Food & Packaging Systems Inc. [Military Food Symposium]. AL

33

Quality control in food service. [Book]
Thorner, M. E.; Manning, P. B.
vii + 368pp. ISBN 0-87055-195-7 (1976) [many ref. En] Westport, Connecticut, USA; AVI Publishing Co. Inc. Price $25.00 (USA) $26.00 (Foreign)

This book is intended to serve as an on-the-job training manual, as a textbook and as a guide for all categories of food service personnel. Chapters are: Scope of quality control in food service (pp. 1-10); Implementation of a quality control programme (pp. 11-37); Purchasing and specifications (pp. 38-60); Receiving and inspection control (pp. 61-80); Storage and issuing control (pp. 81-99); Preparation and production equipment (pp. 100-137); Pre-cooking quality control (pp. 138-150); Cooking quality control (pp. 151-161); Post-cooking quality control (pp. 162-172); Desserts and baked products control (pp. 173-181); Non-alcoholic beverages control (pp. 182-239); Food spoilage and sanitation control (pp. 240-275); Water quality and warewashing control (pp. 276-298); Quality control of vending equipment (pp. 299-318); and Energy control and conservation (pp. 319-330). Also included are: a glossary of relevant terms (pp. 331-336); an appendix, containing USDA standards for prepared meat and poultry products and useful tables (pp. 337-356); and a bibliography (pp. 357-360). JA

34

Implementing the metric system in hospital food preparation.

Rone, D.; Frakes, E. M.

Journal of the American Dietetic Association **67** (4) 361-363 (1975) [3 ref. En] [Univ. of Kansas Med. Cent., Kansas City, Kansas, USA]

The procedures developed to implement the metric system of weights and measures in the food production unit are outlined. The 3 phases described are: mathematical computation to convert weights and measures; conversion of equipment used for weighing and measuring; and training employees in the use of converted recipes and equipment. VJG

35

Quality, price, food standards slow frozen food purchase by schools.

Ross, V.

Quick Frozen Foods **37** (7) 26-27, 69 (1975) [En]

A survey of 86 major US city school food service directors running school lunch programmes for ≥500 000 students, or serving ≥50 000 meals; and 2740 other city directors was carried out by the American School Food Service Association. Although the use of convenience foods in school feeding programmes is increasing, the share of this market which frozen food can capture will depend on quality and price. Tabulated data show the % of schools surveyed utilizing food categories with frozen product. 25% said they had used preplated meals, but 20% said they would not be purchasing again because the meals lacked the desired quality. Some products offered did not meet Type A requirements, or if they did were too expensive. VJG

36

[Survey of Salmonella contamination of utensils in meat shops, in Chinese restaurants and in chicken slaughter-houses.]

Terayama, T.; Igarashi, H.; Ushioda, H.; Ikejima, N.; Saito, K.; Zen-Yoji, H.

Annual Report of Tokyo Metropolitan Research Laboratory of Public Health **23**, 7-12 (1971, publ. 1972) [7 ref. Ja, en] [Dep. of Microbiol., Tokyo Metropolitan Res. Lab. of Public Health, Tokyo, Japan]

During March 1972, a survey was made of Salmonella contamination of utensils in 167 meat shops, 93 Chinese restaurants, and 6 chicken slaughter-houses in Tokyo. Swabs of utensils and other specimens were immersed in 300 ml of EEM broth (Enrichment Mannitol broth for Enterobacteriaceae) for pre-enrichment, and incubated at 37°C for 24 h. After incubation, 1 ml of culture was added to 10 ml of Rapaport's medium for selective enrichment and incubated at 42°C for 18 h. Isolation of the organisms was carried out on SS (Salmonella-Shigella) and DHL (Desoxycholate Hydrogen Sulphide Lactose) agars. At meat shops, Salmonella was isolated from 22 of 1263 swabs of utensils. At Chinese restaurants, Salmonella was isolated from 8 of 600 swabs of utensils and dusters. At chicken slaughter-houses, Salmonella was isolated from 9 of 57 swabs of utensils and equipment. 2 of 157 sliced hams and 2 of 145 samples of boiled chicken and baked pork were contaminated with Salmonella. AS

37

[Milk in schools.]

Anon.

Technique Laitiere No. 876, 29 (1976) [Fr]

Results are given briefly of an enquiry into various aspects of school milk carried out during 16-20 March 1976 using a sample of 1000 mothers of whom 27% had at least 1 child in nursery or primary school. 82% of the respondents were in favour of school milk and of these 51% preferred the milk to be taken in the middle of the morning and 46% in the afternoon, 15% opposed (6% laid down conditions for acceptance) the scheme, and 3% had no definite opinion. Good nutritional quality was the main reason given in support of school milk. Since Jan. 1976 milk (UHT in 0.2-l. packs with drinking straw) has been distributed in 7 schools in Paris and environs. Acceptance was 98% and only <1% of the children consistently refused to drink the milk. FL

38

[Optimum cooking methods.] Optimale Garmethoden.

Gading, M.

GV-Praxis mit Tiefkühlpraxis **16** (6) 74-79 (1976) [De]

The use of hot air ovens in catering establishments is discussed, with reference to: the design and operation of these ovens; suppliers; applications; relative merits of gas and electric heating; steam and smoke removal; cleaning; quality of products cooked in these ovens; and practical tips for optimum utilization of the equipment. AJDW

39

[New food compositions having at least four ingredients.]

Sudre, J.

French Patent Application 2 269 871 (1975) [Fr]

A pre-prepared dish for cooking in restaurants and at public gatherings is made by preparing a mixture of fatty matter in an aqueous phase together with at least one albuminoid substance, one solid fatty substance, and thickening agents and binders, and maintaining the shaped mixture at +2 to +3°C to cause it to set. The product is kept at a low temp. until it is cooked at the point of consumption. W&Co

40

[New possibilities with refrigerated food.] Neue Möglichkeiten mit Kühlkost.
Schwebel, W.
2100bn **15** (10) 46, 48-49 (1975) [De]

A system is described for rapid cooling of ready-prepared meals cooked in a central kitchen; the meals are cooled to 2°C and distributed in special containers in which they can be stored for 3 days. A basic requirement is rapid cooling (e.g. within 50 min) through the bacterial growth range between 50 and 10°C, followed by final cooling to 2°C. Normal cold stores are unsatisfactory, due to slow cooling (several h) and possible failure to reach the desired temp., particularly with large batches of heated meals (at 80°C). Special containers with metal covers, stacked in layers in crates of various sizes are described; these can be cooled rapidly and uniformly by cold air circulation. A preliminary cooling tunnel is desirable for large batches. Refrigeration systems are discussed, e.g. cooling cabinets with air circulation for small batches, countercurrent blast coolers for medium batches (300 meals) or large mechanized units (1000 meals); an alternative is cooling by direct contact with cold N_2 or CO_2 produced by liquid expansion through a nozzle. Control of RH at 95% is also recommended, to prevent distortion and surface drying of food, followed by removal of condensate. ELC

41

[Catering service with insulated containers.] Verpflegung durch Thermophoren.
Gading, M.
2100bn **15** (10) 31 (1975) [De]

Cooking of food at the place where it is consumed is not always possible, and distribution in insulated containers may be required. The design and use of such containers ('Thermophoren') is discussed, with reference to capacity, preservation of flavour and nutritional value, closures, ease of stacking, cleaning and advice to supervisors. ELC

42

[Process for producing a compacted ready-to-eat food.] Verfahren zur Herstellung eines essfertigen Presslings.
Werner, R.; Schweikhardt, F. (Milupa AG)
German Federal Republic Patent Application
2 433 650 (1976) [De]

A protein-enriched compressed foor consisting essentially of ground flakes of maize, dried milk, sugar, flavouring agents and vitamins is processed in such a way as to make it firm for transport. In the process the ingredients are mixed, the moisture content is reduced to ≤3% and the mixture is compacted, then granulated, and finally compressed. It is preferable to add a powdered triglyceride mixture as a dispersing and lubricating agent either to the granulated mass, or to the mixture prior to compacting. W&Co

43

The National Sanitation Training Program: Canadian Restaurant Association's answer to safe and sanitary foodservice.
Davies, R. J.
Journal of Milk and Food Technology **39** (5) 367-369 (1976) [En] [Canadian Restaurant Ass., 94 Cumberland Street, Toronto, Ontario M5R 1A3, Canada]

There are an estimated 120 000 cases of bacterial food poisoning occurring in the Canadian foodservice industry each year. The Canadian Restaurant Association, in co-operation with all Provincial departments of health and Health and Welfare Canada, developed a sanitation code to help the foodservice operator understand every essential sanitation requirement. In conjunction with the code, a national sanitation training programme was developed to assist in the total education in foodservice sanitation of all personnel in the Canadian foodservice industry. To date, 3200 personnel have successfully completed one of the national sanitation training programmes and gained a more responsible level of foodservice sanitation awareness. The programme as well as being accepted by all Provincial departments of health and Health and Welfare Canada, has been officially endorsed by the Canadian Public Health Association and the Consumers Association of Canada. AS

44

Microbiological aspects of certain military feeding systems. [Lecture]
Rowley, D. B.
Journal of Milk and Food Technology **39** (4) 280-284 (1976) [12 ref. En] [Food Sci. Lab., US Army Natick Development Cent., Natick, Massachusetts 01760, USA]

This paper considers the microbiological safety of systems involved in feeding the military consumer in garrison, missile sites, and in the field with and without an organized kitchen. Comprehensive food service sanitation guidelines are provided which emphasize proper food preparation, storage and serving. In a central preparation operation, food is prepared for use at some future time; if this food is mishandled and growth conditions are presented to contaminating microorganisms, there is adequate time for multiplication. The importance of proper sanitation in the field feeding system cannot be overemphasized; every precaution must be taken to see that food is properly prepared, transported, and served and that the mess gear is sanitized. For field conditions where kitchens are not available, stable foods have been developed, e.g. precooked dehydrated foods, thermally processed foods, and, eventually, radiation sterilized meats. AS

45

[A question of price: make it yourself of buy?!] Preisfrage: Selbst herstellen oder kaufen?!
Anon.

GV-Praxis **16** (2) 23-26 (1976) [De]

Relative merits in catering practice of preparation and cooking entirely from basic raw materials vs. use of purchased partly-prepared ingredients are discussed on a costings basis. Prices of raw agricultural products are relatively low, but can fluctuate widely with supplies (e.g. poor harvests). However the preparation and processing of raw supplies involve considerable operating and labour costs; consequently purchase of prepared foods increases the element of food cost to the caterer but reduces his other processing and labour costs. Manufacturing costs fall with increasing vol. of production, and for many small or medium operators it is more economic to purchase prepared foods from large-scale producers. The 'break-even' point, reached at some production level, varies with individual products. Costs of materials and labour are given for production (highly labour intensive) of 2080 potato portions (croquettes) from raw potatoes or purchased mashed potato powder; the latter was much cheaper. Detailed costs (materials, labour, energy) are given for preparation of 100 beef goulash portions from (i) individual ingredients, (ii) purchased pre-prepared products and (iii) canned ingredients. Total costs (DM/portion) were (i) 1.25, (ii) 1.19 and (iii) 1.39. ELC

46

[Greater economy through increased turnover.] Höhere Wirtschaftlichkeit über Umsatzsteigerung.
Weiss, G.
GV-Praxis **15** (12) 32-34 (1975) [De]

Greater economy in the supply of institutional food is discussed with particular emphasis on large scale catering. Apart from direct reduction of costs, increased turnover (influenced by both output and prices) offers a major potential for reducing costs. In practice 3 major areas are involved, viz. materials (mainly food purchases), technology (handling capacity of equipment) and personnel (output/worker, efficient supervision). Costs fall into categories of fixed costs (labour, energy, depreciation, maintenance, administration) and variable costs/unit specific to an individual food or service. It is shown with examples, that with increasing output the variable costs show little change but the fixed costs decline to a smaller proportion of total unit costs. To secure economies (whether in a profit-making establishment or a works canteen) it is essential to reduce fixed costs by increasing final sales. Factors discussed which affect turnover include: food quality and consumer satisfaction; attractive service surroundings; propaganda (latitude limited); buying motivation; price policies, including regulation by supply and demand and price elasticity; and effect of price variations on meals eaten outside the home. ELC

47

[Communal systems for large scale catering.] Kommunale Verbundsysteme in der GV.
Polensky, W.
GV-Praxis **16** (2) 32, 34-36 (1976) [De]

Costings data (including tables, graphs and formulae), obtained from community establishments and published sources, for the production and supply of cooked meals are presented under 5 headings: buildings; provision and maintenance of cooking and cleaning equipment; energy costs; labour requirements; and purchase of food materials. The 5 sector costs and the total cost are related to the number of meals provided in the range 1000-10 000 meals/day, and according to either provision of full cooking and service, or centralized cooking with decentralized supply points at (i) hospitals, (ii) old persons homes and (iii) works canteens. Detailed aspects also include proportions of normal, special and dietetic (not at iii) meals, proportions of frozen foods and data for individual meals (breakfast, mid-day, evening). All data include preparation and portioning of meals, investment costs, depreciation and interest charges, but exclude transport costs to supply points, provision of crockery and cutlery. The point for introduction of automation is considered to be between 1000 and 2000 meals/day. ELC

48

Potential for institutional foods in Japan.
Phillipsen, W. L.; Uyeno, K.
Foreign Agriculture **12** (33) 9-12 (1974) [En]

The average Japanese eats 10% of meals outside the home; hence numbers and gross sales in all types of restaurants have boomed, especially those selling Western-type foods. The increases in household expenditure for eating out, growth of the food service industry, and production of frozen foods for retail and institutional use are graphically presented for 1961-1971. AL

49

[Transport - from cellar to plate.] Transport - vom Keller auf den Teller.
Anon.
GV-Praxis **15** (10) 50-52 (1975) [De]

Possibilities of reducing catering (canteen type meals) costs by economies in the transport of individual meals and removal of soiled dishes are discussed. Detailed aspects covered include: choice of conveyor type and floor arrangement in relation to the cooking (serving unit, number and size of dining tables and exit point of soiled dishes); conveyor speeds and changes of direction (2-dimensional horizontal and 3-dimensional horizontal and vertical systems); size of menu trays and plates and height of any covers; table space allowances/person; and single service of 2 meal courses or 2 separate servings. Calculation examples are given, based on average occupancy of a table place of 20-30 min. ELC

50

[Modern provision of meals.] Zeitgemässe Speisenversorgung.
Schwebel, W.
GV-Praxis **16** (3) 37-38, 40-42 (1976) [De]

Large-scale preparation, distribution and service of meals, particularly in hospital catering, are discussed in relation to systems (still uncommon) which provide a continuous sequence from primary preparation and cooking of food to service of numerous and varied individual meals. Storage of hot food for long periods, or partial cooling and reheating are major risks involving loss of vitamins and changes in flavour and appearance. New methods are based on centralized cooking (preferably steam pressure) in bulk, portioning, distribution in portion containers (various sizes) and individual service trays, with separate lines for hot or cold meals, and organization of recipients in small groups with similar food requirements receiving rapid concentrated service. Max. total time for which foods remain hot is 60 min, and foods served cold must pass from 45° to 15°C in 40 min. Descriptions are given of portioning equipment, multiportion containers, service trays, specialized distribution crates and trolleys or mobile cabinets for hot or cold meals, including also small units for carrying hot food by hand and insulated covers for cold food crates. ELC

51

[A meal should include a dessert; fresh fruit is well in the running.] Ein Dessert gehört dazu. Frisches Obst liegt gut im Rennen.
Doll, U.
GV-Praxis **15** (9) 60-63 (1975) [De]

Desserts (preliminary of final course), an essential feature of an attractive meal, should absorb only a small proportion of total menu costs. The wide variety of available products, flavours, garnishes, packages and service containers is outlined. Nevertheless a survey in Federal Germany showed that only 30% of persons eating out chose desserts, which is attributed to fear of becoming overweight. Producers now tend to reduce calorie contents to 25% of the level found in traditional puddings (various low calorie examples are given); in addition 50 g of a whipped product can present the same vol. as 100 g pudding. A survey of 2000 menus at 40 establishments showed that 1455 offered desserts, frequencies being: cream desserts and puddings, 512; fresh fruit, 304; fruit compotes, 266; quark products, 133; yoghurts, 89; bread pudding, pasta, pancakes, 65; ice cream products, 50; and cakes, 36. Analysis of frequency of choice of individual desserts in relation to their availability on menus (chart given) showed that fresh fruit has become the first choice. ELC

52

The bacteriological quality of boiled and fried rice from Chinese restaurants in relation to Bacillus cereus food poisoning.
Beckers, H. J.
Archiv für Lebensmittelhygiene **27** (2) 66-68 (1976) [18 ref. En, de] [Rijksinst. voor de Volksgezondheid, Postbus 1, Bilthoven, Netherlands]

2 outbreaks of B. cereus food poisoning in Rotterdam (Netherlands) were investigated. 9 persons were involved, all of whom had consumed dishes containing fried rice about 2 h before developing food poisoning symptoms. The dishes had been obtained from a Chinese restaurant. A bacteriological examination was made of the boiled rice from which the fried rice had been prepared and of the finished dish. Findings prompted a systematic investigation of the bacteriological quality of boiled and fried rice in Chinese restaurants in the Rotterdam area. It was found that slow cooling of the boiled rice, high holding temp. of the boiled rice prior to consumption and the sparing nature of the secondary heat treatment (i.e. frying) in which only the surfaces layers of the rice mass were heated all contributed to high bacterial counts. Under such circumstances the presence of B. cereus in the uncooked rice and the relatively high heat resistance of the organism may lead to food poisoning. JA

53

Perfringens illness associated with beef prime rib served in a restaurant. [Letter]
Pace, P. J.; Duncan, C. L.; Dowell, V. R.; Antonmattei, J. C.; Wisniewski, H. J.
Journal of Milk and Food Technology **39** (4) 305 (1976) [1 ref. En] [Bureau of Lab., Milwaukee Health Dep., 841 North Broadway, Milwaukee, Wisconsin 53202, USA]

This food poisoning outbreak, which occurred in Milwaukee, Wisconsin in March 1975, involved 28 persons who had consumed prime ribs of beef in one restaurant approx. 6-17 h before developing symptoms (diarrhoea, cramp, nausea, vomiting). Symptoms persisted for 1-30 h. A portion of the beef and stools of 3 patients were examined microbiologically. Clostridium perfringens was isolated from beef and stools; isolates were identified as toxigenic type A. The restaurant stated that ribs are supplied in sealed cryovac wrapping, processed in a commercial rib oven for >3 h then held at 150-160°F for 6-10 h. On the day of the outbreak one rib oven was malfunctioning and ribs were reprocessed in a conventional oven. JA

54

[Bacteriological control in canteens and restaurants.] [Lecture]
Luquet, F.-M.; Mahe, R.; Flaman, O.
Alimentation et la Vie **63** (4) 230-249 (1975) [Fr] [Lab. de la Soc. Sci. d'Hygiene Alimentaire, Inst. Sci. d'Hygiene Alimentaire, Paris, France]

French standard for the microbiological control of food consumed in restaurants are given in the decree of 26 June, 1974. 1484 samples of food (295 entrees, 902 main dishes and 287 desserts) from 250 canteens or restaurants were analysed for microbial contamination, and the number of

samples conforming to the decree of 26 June, 1974 was determined. The results for the different types of food are discussed in detail. Microbial contamination was most frequently encountered in hors-d'oeuvre, uncooked dishes and desserts and was generally of human origin. Improvements in hygiene in kitchens handling large quantities of food are discussed. MEG

55

Development of versatile pie crust key to tasty maid success.

Anon.

Quick Frozen Foods **38** (2) 30, 32, 34 (1975) [En]

A description is given of the new Tasty Maid plant in South Plainfield, New Jersey, with its 25 000 ft^2 production area, 10 000 ft^2 freezer/cooler, 5000 ft^2 offices including a special school feeding demonstration area. The basic line of products includes beef, chicken, apple, pizza, chili, burrito and Jamaican-style varieties of filling in 1¾-, 3½-, 4½-, and 5½-oz sizes, baked or unbaked and all available in Type A School Lunch form. The new facility has the capability of producing 400 pasties/min. The crust is the same for all products whether meat- or fruit-filled. The company recently introduced a line of 30 'Val-U-Pak' mini meals, compartmented trays with a meat entree and a vegetable for School Lunch programmes. They intend to miniaturize the Tasty Maid line of crusted products for a complete selection of hors d'oevres. VJG

56

Airlines experiencing growth in requests for Kosher meals.

Anon.

Quick Frozen Foods **38** (5) 50, 52-54 (1975) [En]

Wilton Caterers, Inc., of Spring Valley, New York has over the last 6 yr become probably the largest single producer of frozen entrees and dinners for the kosher institutional trade in general and holds a commanding position in servicing the airlines. Frozen kosher meals are a growing industry. Not only for the older generation but Jewish youth is also taking an interest. Non-Jews are beginning to order kosher meals on airline trips because of the variety, quality and flavour difference. Wilton have 15 gourmet frozen kosher meals available for airlines and new varieties are added at frequent intervals. An airline will usually select 6 or 8. Wilton supplies the complete meal, including bread, roll, or dessert. In addition to 15 gourmet entrees for the airlines, Wilton also packs and freezes for them 6 different breakfasts and 4 snack items. VJG

57

Health laws and regulations - Australia.

World Health Organization

International Digest of Health Legislation 26 (4) 720-734 (1975) [En] [Geneva, Switzerland]

A selection of Australian health laws and regulations is presented including the following which relate to food hygiene: Tasmania - An Act (No. 54 of 1973) to amend the Public Health Act of 1962 (dated 23 Oct., 1973) to empower the Governor to make regulations requiring the registration of food factories and restaurants and the licensing of persons in charge thereof; and Western Australia - An Act (No. 28 of 1973) to amend the Margarine Act, 1940-1952 (dated 6 June, 1973). VJG

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FAB 24

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FOOD SCIENCE AND TECHNOLOGY ABSTRACTS

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Coverage of the subject has been restricted to that of Food Science and Technology Abstracts, which covers over 1200 of the important food journa patents from 20 countries and books published world-wide. Every effort is made to include all significant references, but editorial discretion is used on the many articles of borderline interest. If the reader particularly needs an exhaustive search of the subject, we will be pleased to provide any other references that we have available. We would, in any case, encourage readers to write or telephone us with any comments or queries that they may have.

H. BROOKES

ASSISTANT EDITOR

1

[Analytical study of meals served in school canteens.]
Astier-Dumas, M.
Meunerie Francaise No. 322, 29-32 (1976) [3 ref. Fr] [Cent. de Recherches Foch, 4 Avenue de l'Observatoire, 75006 Paris, France]

Protein, fat, sugar, Ca, Mg, Na, K, Fe, thiamin and calorie contents of 43 mid-day meals served in school canteens were measured and compared with recommended daily allowance (assuming that the mid-day meal accounts for 40% of the daily food intake). The meals were found to be generally adequate in protein, fat, thiamin, Na, K and Fe, but deficient in calories, Mg and Ca. The suitability of different types of menu is discussed and the use of more bread and milk in French school meals is suggested. MEG

2

[Possibilities of use of textured vegetable proteins in special conditions with special reference to the armed services.]
Veljkovic, S.; Petrovic, D.
Hrana i Ishrana **17** (3/4) 129-134 (1976) [10 ref. Sh, en] [Istrazivacka baza Drustva za Unapredenje Ishrane Naroda SR Srbije, Belgrade, Yugoslavia]

The potential of textured vegetable protein (TVP) products as foods for use under special conditions (e.g. in rations for the armed services) is discussed, with reference to their high protein concn. and protein quality, low moisture and fat concn., and consequent easy transport and long shelf-life. The composition of TVP, and the possibility of manufacturing it in Yugoslavia are discussed. IN

3

[Changes in fats during frying of different food products under controlled and uncontrolled heating conditions.]
Ziombski, H.; Luszcz, A.
Roczniki Panstwowego Zakladu Higieny **27** (3) 317-329 (1976) [20 ref. Pl, ru, en] [Inst. Zywnosci i Zywienia, Warsaw, Poland]

10-kg batches of pancakes with yeast, unleavened dough pancakes, raw potato pancakes or boiled potato cutlets were fried in lard, or refined rapeseed, soybean, sunflower seed or groundnut oils. Frying was in an electric frying pan (bottom area, 11.5 dm^2) with 3 heat settings, either at 173 ± 4°C for all products for 180 min, or at temp. varying with the product and oil (152-232°C) for 46-278 min. Data on fried product yield, % absorbed fat and moisture loss; and on customary fat characteristics of oils before and after frying are tabulated. The findings are discussed. The main conclusions include: lard or groundnut oil should be used for deep frying; rapeseed oil is less suitable for the purpose, and sunflower seed oil and soybean oil should be used for cold dishes; and frying under uncontrolled heating conditions is unsatisfactory technologically and from the health point of view. Guidelines on suitable deep frying equipment for mass catering establishments are presented. SKK

4

Development of a ready-prepared pourable dairy custard.
Crocker, A. P.
Australian Journal of Dairy Technology **31** (1) 27-31 (1976) [8 ref. En] [Dep. of Agric. Dairy Res. Cent., Richmond, N.S.W., Australia]

A ready prepared pourable dairy custard suitable for the Australian market consisted of either 89.3% whole milk (3.5% fat) or the equivalent in recombined ingredients, 3.5% starch (modified wheat), 7% sugar, flavouring and colouring, and had a viscosity of 2500 ± 500 cP. Processing involved homogenization, heating (92°C for 30 min), cooling to 4°C and packaging, followed by refrigerated storage at 5-8°C. The particular starch used imparts excellent freeze-thaw stability to the finished product, making it suitable for cook-freeze catering services. The product is not sterile and has a limited shelf life of 6-22 days. Consumer reaction to the product, released through retail outlets in New South Wales, was good. MEG

5

[Fluorine content of food products and rations, obtained in different biochemical regions of the Ukraine.]
Gabovich, R. D.; Stepanenko, G. A.
Voprosy Pitaniya No. 3, 74-77 (1976) [Ru]

The incidence of fluorine in soil, in 10 foodstuffs and in meals of school children over a 10-day period in 4 biogeochemical areas of the Ukraine was measured calorimetrically by the zircon-alizarin method. The range for soil was 190-250 mg/kg, and for foodstuffs the lowest incidence, in potatoes, was 0.13-0.27 mg/kg, and the highest, in rye bread, 0.29-0.55 mg/kg. In each case area 1 had markedly less fluorine than the others, emphasizing the need for fluorine in drinking water in such an area to combat dental caries. The average content in schoolchildren's daily meals was 0.37-0.92 mg, and in those of kindergarten age 0.32-0.58 mg. On the basis of averages cited in different parts of the USSR, ranging from 0.27 to 0.8 mg, no area had excess fluorine in the diet which might cause fluorosis. KME

6

[Bacteriological control in catering establishments.]
Aubert, S. d'; Bazzani, M.; Cantoni, C.
Industrie Alimentari **15** (9) 124-128 (1976) [It] [Istituto di Ispezione degli Alimenti di Origine Animale, Fac. di Med. Vet., Univ. degli Studi di Milano, Milan, Italy]

Studies on the bacteriological quality of a total of 541 samples of various foods prepared at catering establishments are described; total aerobic counts and the counts of coliforms, Escherichia coli, sulphite-reducing clostridia, coagulase-positive staphylococci, salmonella, and yeasts + moulds were determined. In the absence of appropriate Italian tolerances, hygienic quality was evaluated on the basis of French tolerances. Tables of results (number and % of samples complying with French tolerances) are given. Fish products, meat + vegetable dishes, desserts and cheese all fully complied with French tolerances for bacteriological quality. All samples were free from sulphite-reducing clostridia; counts of salmonellae and coagulase-positive staphylococci exceeded French tolerances only in cured meat products. Some samples of vegetables, omelettes, meat-based dishes, hors d'oeuvres, etc. failed to comply with French tolerances for total aerobic counts, or counts of coliforms, E. coli or yeasts + moulds. AJDW

7

[Flavouring of soy milk for use in school meals.]
Ferreira, V. L. P.; Shirose, I.
Boletim do Instituto de Tecnologia de Alimentos, Brazil No. 44, 87-102 (1975) [5 ref. Pt, en]

Samples of soy milk drinks of various flavours ((i) strawberry, (ii) chocolate, (iii) redcurrant, (iv) vanilla, (v) coconut, (vi) banana, (vii) pineapple) were evaluated by a panel of adults, and by a group of approx. 100 children (of various socio-economic groups) of 7-13 yr of age. Tables of results are given. Adults rated (iii) highest and (i) lowest for flavour, and (v) highest and (i) and (ii) lowest for aroma. Children rated the samples in the overall order (i) (most liked), (ii), (iv), (vi), (iii), (vii), (v) (least liked). Significant differences in preferences were observed between age groups and sexes of children, but not between socio-economic groups. Opinions of the children on the desirable sugar content of the products are also discussed. AJDW

8

Possible significance of adverse reactions to glutamate in humans. [Review]
Reif-Lehrer, L.
Federation Proceedings **35** (11) 2205-2212 (1976) [90 ref. En] [Dep. of Ophthalmology, Harvard Med. School, Cambridge, Massachusetts, USA]

Of those exposed to Chinese restaurant food, studies carried out by the author have indicated that 25% report adverse reactions (Chinese restaurant syndrome (CRS)), presumably to the monosodium glutamate (MSG) content. The possible significance of the symptom is discussed in the light of the known neuroexcitatory activity of MSG. It is suggested that CRS may result from a benign inborn error of metabolism that is deserving of further study, particularly in individuals with certain other metabolic abnormalities or who are on certain types of drug therapy. AS

9

Proceedings of fall 1975 meeting. Theme: Technology, feeding systems and the challenge of the future. [Conference proceedings]
United States of America, Research & Development Associates for Military Food & Packaging Systems Inc.
Activities Report **28** (1) iv + 107pp. (1976) [9 ref. En] [Room 1315, 90 Church Street, New York, New York 10007, USA]

This report of the fall 1975 meeting, held on 21-22 Oct. 1975 at the US Army Natick Development Center, Natick, Massachusetts, is divided into 4 sessions: Overview of food service development needs (pp. 7-51); New developments in food service systems (pp. 52-81); Packaging specifications (pp. 82-94); and Problems in disaster feeding (pp. 95-104). Individual papers include: Army portion - DOD food research, development, testing, and engineering requirements, by J. L. Kenyon (pp. 16-18); USAF food service systems research, development, testing, and engineering requirements, by N. D. Heidelbaugh, R. V. Decareau, F. Dooley, R. Probst, D. P. Smith & R. Kennington (pp. 19-28); Current status of US Marine Corps requirements, by W. E. Belcher (pp. 29-30); An analysis of combat feeding systems, by T. S. Bonczyk, M. M. Davis & R. F. Smith (pp. 31-36); Overview of food service system program, by R. J. Byrne (pp. 37-39); A new DOD approach to food service systems management, by R. P. Richardson (pp. 40-44); Food processing industry research in the United Kingdom, by A. N. Holmes (pp. 45-51); Energy reduction in military feeding, by B. B. Thomas (pp. 52-53); Field bakery, by R. J. Lanza (pp. 54-58); [Continued in following abstr.] AL

10

Proceedings of fall 1975 meeting. Theme: Technology, feeding systems and the challenge of the future. [Conference proceedings]
United States of America, Research & Development Associates for Military Food & Packaging Systems Inc.
Activities Report **28** (1) iv + 107pp. (1976) [9 ref. En] [Room 1315, 90 Church Street, New York, New York 10007, USA]

[Continued from preceding abstr.] Meal, ready-to-eat, individual, by H. A. Hollender (p. 59); Food service innovations at Travis AFB, by G. Hertweck (pp. 60-61); Study of navy food service training, by P. D. Leitch (pp. 65-70); Food stowage aboard navy submarines, by D. E. Westcott (pp. 71-73); Space food technology: public health implications, by N. D. Heidelbaugh (pp. 74-81, 9 ref.); [Packaging] specifications -what's wrong with them, by J. Patten (pp. 82-85); Military specifications and procurement - the end result, by J. L. Welbourn (pp. 86-89); FDA considerations in flexible packaging development, by R. B. Davis (pp. 90-94); and Lessons learned - problems in feeding Vietnamese refugees, by E. V. Cox (pp. 95-97). AL

11

Proceedings of spring 1976 meeting. Theme: Quick service restaurants, the future of military feeding? [Conference proceedings]

United States of America, Research & Development Associates for Military Food & Packaging Systems Inc.
Activities Report **28** (2) iii + 65pp. (1976) [6 ref. En] [Room 1315, 90 Church Street, New York, New York 10007, USA]

Proceedings of the meeting, held on 21-22 April 1976 at Drake Hotel, Chicago, Illinois, are given. Sessions dealt with: General aspects (pp. 1-8); QSR technology (pp. 9-27); QSR impact on the armed forces (pp. 28-48); and Health and nutrition (pp. 49-63). Individual papers are: The quick service restaurant -where is it going, by J. Patten (pp. 1-3); Natick research and development command update 1976, by R. E. Lester, Jr. (pp. 4-8); QSR packaging technology, by R. R. Perdue (pp. 9-13); Equipment needs for the QSR, by F. Mathias (pp. 14-16); Where are we going in military food service?, by J. D. Blanchard (pp. 17-22); Military food distribution systems present and future, by C. A. Kowalczyk (pp. 23-25); A user looks at QSR distribution, by T. J. Stratigakes (pp. 26-27); QSR - a review of tests and future in military feeding, by J. L. Welbourn (pp. 28-30); The impact of QSR on army food service, by R. E. Lees (pp. 31-35); Central food management system: a developing concept, by A. L. Dungan (pp. 36-41); Industrial equipment technology as related to the armed forces, by J. Martin (pp. 42-44); QSR: an opportunity for the military, by G. Herweck (pp. 45-48); [Continued in following abstr.] AL

12

Proceedings of spring 1976 meeting. Theme: Quick service restaurants, the future of military feeding? [Conference proceedings]
United States of America, Research & Development Associates for Military Food & Packaging Systems Inc.
Activities Report **28** (2) iii + 65pp. (1976) [6 ref. En] [Room 1315, 90 Church Street, New York, New York 10007, USA]

[Continued from preceding abstr.] Assuring the nutritive value of QSR meals, by P. A. Lachance (pp. 49-53, 6 ref.); Federal health regulations covering QSR, by L. Roberts (pp. 54-57); State health regulations covering QSR - a challenge to our business, by C. G. Hall (pp. 58-60); and Quality is the bottom line, by A. W. Graham (pp. 61-63). AL

13

The future of food service 1985-1990. [Book]
Powers, T. F. **United States of America**, Pennsylvania State University, Food Service & Housing Administration
xviii + 250pp. (1975) [many ref. En] University Park. Pennsylvania, USA Price $6.95

Chapters in this publication are: Introduction to the food service scenarios (pp. 3-16, 6 ref.); The standard world of 1985 (pp. 19-33, 3 ref.); The optimistic food service scenarios (pp. 37-52, 3 ref.); The restaurant industry of the future (pp. 55-84, 12 ref.); The active government scenario (pp. 87-147, 23 ref.); The pessimistic food service scenarios (pp. 151-157); The foods we will eat, by L. M. Renaghan, J. M. Powers & T. F. Powers (pp. 161-193, 24 ref.); The restaurant service scenario (pp. 197-232, 23 ref.); and Toward food service curriculum planning: summary and conclusion (pp. 235-250). This book is in the Service Management Reports series. AL

14

Centralized food service systems. [Book]
Powers, T. F.; Swinton, J. R. **United States of America**, Pennsylvania State University, Food Service & Housing Administration (Editors)
xiii + 200pp. (1975) [many ref. En] University Park, Pennsylvania, USA Price $6.95

Papers in this book are: Large quantity food production systems, by T. F. Powers & B. J. Williamson (pp. 1-37, 7 ref.); The Michigan State University vegetable processing center, by T. L. Smith & D. H. Ralph (pp. 39-61); Microbiological quality control for centralized food preparation facilities, by J. M. Powers (pp. 63-117, 44 ref.); Problems with regulations in the food processing and delivery industries - Pennsylvania: a case study, by M. Kroger (pp. 119-139); The distribution-transportation problem of commissary operations, by S. H. Mann & C. M. Miles (pp. 141-190, 40 ref.); and The potential commisary function for the wholesaler or how it all might work for the independent, by T. F. Powers (pp. 191-198). This book is in the Service Management Reports series. AL

15

[Salads - a melancholy theme?] Salat - ein trauriges Thema?
Doll, U.
GV-Praxis mit Tiefkuehlpraxis **16** (10) 111-112, 114-115 (1976) [De]

The potential for increased use of salads in large-scale catering establishments is discussed, with reference to: types of salads; types of salad dressings; consumer opinions on the nutritional value, organoleptic properties etc. of salads; and frequency of use of salads in institutions, canteens and restaurants (with reference to salad types and portion sizes served). It is suggested that a self-service system should be employed (in which the customers select their own combinations of salad ingredients and dressings), and that the range of ingredients, dressings and styles of presentation of the salads should be maximized. AJDW

16

Hospital chill foodservice systems: acceptability and microbiological characteristics of beef-soy loaves when processed according to system procedures.
Bunch, W. L.; Matthews, M. E.; Marth, E. H.

Journal of Food Science 41 (6) 1273-1276 (1976) [18 ref. En] [Dep. of Food Sci., Univ. of Wisconsin, Madison, Wisconsin 53706, USA]

Preparation and service of food as practised in hospital chill food-service systems were simulated. Beef-soy loaves, containing 25% rehydrated textured soy crumbles and 75% ground beef, were baked to 60°C in a convection oven operating at 121 ± 8°C, stored chilled at 5 ± 3°C for 24, 48 or 72 h, portioned, held chilled at 5 ± 1°C for 2 h, and then heated in a microwave oven for 55 s to achieve an internal temp. of 80°C just before the products were evaluated by a consumer panel. Overall acceptability scores for the final product were almost identical, regardless of the length of chilled storage at 5 ± 3°C. Viable bacteria remained in the centre of the product after the loaves were heated to 60°C, stored at 5 ± 3°C for 24-72 h, portioned, held chilled at 5 ± 1°C for 2 h, and portions heated to 80°C. IFT

17

A simple method for determination of tryptophan in food samples.

Öste, R.; Nair, B. M.; Dahlqvist, A.
Journal of Agricultural and Food Chemistry 24 (6) 1141-1144 (1976) [16 ref. En] [Dep. of Nutr., Univ. of Lund, S-220 07 Lund, Sweden]

A very simple and sensitive method for detn. of tryptophan in food samples is described. The food proteins are completely solubilized by partial hydrolysis with papain in the presence of 8M urea. An aliquot is diluted with 8M urea and the fluorescence of tryptophan is directly measured at an emission wavelength of 348 nm, during excitation at 288 nm. Tryptophan is used as an internal standard. The results were compared with values obtained from a conventional method involving basic hydrolysis. The method was applied to school lunches and canned baby-foods. AS

18

Counting the cost - and the plus.

Bücker, J.
Milk Industry 78 (10) 21-22 (1976) [En]

This article proposes a systematic distribution of subsidized school milk (UHT in 0.2-l. packs at a rate of 1 pack/head/day) throughout the EEC. It is estimated that under this scheme some 40 million pupils would consume a total of about 1.2 million t of 3.5% fat milk/yr - equivalent to 51 120 t butter and 108 000 t dried skim-milk, which are both intervention products and both in surplus. The introduction of school milk distribution on this scale would relieve the dairy market and would have other real or potential beneficial effects, such as the re-establishment of milk drinking habits in the children and improved nutrition. FL

19

Packaged food for the armed forces.

Ghosh, K. G.
Packaging India 8 (3) 18-20 (1976) [En] [Defence Food Res. Lab. Bangalore, India]

The problems of packaging food fod armed services particularly in the use of flexible pouch containers, are discussed with some examples; accelerated freeze-dried meat, pickled, egg powder. JRR

20

Food additives. Sanitizing solutions.

United States of America, Food & Drug Administration
Federal Register 41 (217, Nov. 9) 49482 (1976) [En] [Washington, DC, USA]

An aqueous solution containing sodium dichloroisocyanurate and tetra-sodium ethylenediaminetetraacetate, providing a level of 100 ppm available Cl, may be used under the Federal Food, Drug, and Cosmetic Act as a sanitizing solution on food-processing equipment and utensils and on food-contact surfaces in public eating places. CAS

21

Food acceptability research: comparative utility of three types of data from school children.

Head, M. K.; Giesbrecht, F. G.; Johnson, G. N.
Journal of Food Science 42 (1) 246-251 (1977) [10 ref. En] [Dep. of Food Sci., N. Carolina State Univ., Raleigh, N. Carolina 27607, USA]

Acceptability of school-served food items was assessed by 3 methods: a 5-point hedonic scale (HED); a 5-point scale on which students estimated the amount they had eaten (AMT); and weighed plate waste. Reliability of HED scale was highly significant; reliability of AMT scale was significant for all but one item (sugar cookie). AMT scores had closer relationship to food consumption than did HED scores. A statistical model was constructed for predicting food consumption from ratings; it was possible to obtain an indication of consumption by elementary students from either scale. Application of methods is discussed. Use of student ratings for predicting consumption by elementary students seemed feasible in test-retest situations. IFT

22

Satellite food-service system assessment in terms of time and temperature conditions and microbiological and sensory quality of spaghetti and chili.

Cremer, M. L.; Chipley, J. R.
Journal of Food Science 42 (1) 225-229 (1977) [15 ref. En] [School of Home Economics, Ohio State Univ., 1787 Neil Avenue, Columbus, Ohio 43210, USA]

A satellite food-service system was assessed as related to spaghetti and chili in terms of time and temp. conditions during various phases of product flow and microbiological and sensory quality of food. This was for the purpose of identifying critical points in processing and contributing to a data base on quality and safety in various types of food-service systems. Critical phases were indicated in findings of relatively wide and, in some instances, unacceptable ranges in time and internal temp. for about half of the phases of product flow for both products, particularly, after heating for service. Sensory quality scores for characteristics evaluated ranged from 6.3 to 7.4 for chili and from 5.9 to 6.8 for spaghetti (based on a 9-point scale). Total plate counts indicated that microbial quality of both products was good but variable with numerous genera of known pathogens identified. These results, coupled with findings of variable time and temp., point to the potential for public health hazards if food is mishandled in systems of this type. IFT

23

[Utilization of frozen foods in industrial feeding and problems of apparatus required.]
Koga, K.
Up-to-Date Food Processing [Shokuhin Kaihatsu]
10 (5) 20-31 (1975) [Ja]

Utilization of frozen foods in industrial feeding improves variety of menus and reduces labour. However, frozen foods are expansive in general. A periodic menu system is proposed, with many examples. The apparatus needed includes freezers and defrosters of several types. SKa

24

[Problems in utilizing frozen foods in school feeding.]
Mogi, M.
Up-to-Date Food Processing [Shokuhin Kaihatsu]
10 (5) 32-36 (1975) [Ja] [Jissen Women's Univ., Tokyo, Japan]

The domestic (Japanese) production and marketing of frozen foods is increasing. About 33% average annual expansion was recorded from 1968 to 1973, annual production in 1973 being 318 000 t. In 1967 a cold-chain system was introduced for school feeding in the Tochigi Prefecture (north of Tokyo), now extended to 11 prefectures. The probleme discussed include quality and its control, imbalance of kinds of food, hygienic aspects, and labelling which indicates the contents of frozen foods. SKa

25

[Sales promotion of vegetable protein foods, especially in relation to school feeding.]
Abe, Y.
Up-to-Date Food Processing [Shokuhin Kaihatsu]
10 (10) 34-38 (1975) [Ja]

Essential steps are to provide information on how to use TVP (textured vegetable protein) in cooking, to use the sales advantage of low price, to improve the quality of the product, to disclose analytical data in as much detail as possible (especially the superior amino acid composition), and to collaborate with other food makers. SKa

26

[Enlargement of the use of vegetable protein foods.]
Aoki, H.
Up-to-Date Food Processing [Shokuhin Kaihatsu]
10 (10) 26-31 (1975) [Ja] [Otusuma Women's Univ., Tokyo, Japan]

Soybean and wheat protein products have been developed since 1960 and 1967, respectively, in Japan. Production has increased, but not so much as in USA. Reasons are discussed from the technological, sales promotion, and social acceptability aspects. In Sept., 1974, the Japanese Society of Vegetable Protein Foods was established. Up to date the main activity has taken place only between vegetable protein makers and the food processing and service industries. The new Society should create additional links between the makers, the government, consumer organizations, mass communication specialists and the consumer. SKa

27

Good nutrition in a frozen confection.
Anon.
Food Engineering International 1 (7) 6-7 (1976) [En]

A newly developed frozen confection bar called Ten-Plus is discussed. 1 bar (2.5 fl oz) provides 10% of the recommended daily allowance for protein for adults. Each bar contains 87 cal, 4 g protein, 14 g carbohydrates, and 1 g fat, and is prepared from whole eggs, egg whites, milk powder, stabilizer and a liquid flavour base. Initially the product will be marketed with an orange flavour but other flavour possibilities include banana, lime, maple, vanilla and chocolate. Ten-Plus can be manufactured on standard ice cream-making equipment. It is expected to find wide application in school lunch programmes and in institutional catering. JA

28

Economics and the kinder cuts.
MacPherson, E.
Staff and Welfare Caterer Dec., 8-10, 12 (1976) [En]

In this wide ranging article the use of meat from the point of view of the supplier and the caterer is investigated. Queries are raised as to the knowledge and flexibility of the caterer in the rapidly changing economic conditions. As meat is the most expensive raw material in a meal, the main concern is to obtain the cuts with economies of preparation and cooking at the lowest possible cost. GL

29

Specification. Stainless steel catering containers and lids.
United Kingdom, British Standards Institution
British Standard **BS 5312**, 4pp. ISBN 0-580-08939-0 (1976) [En] Price £1.60 [2 Park Street, London W1A 2BS, UK]

Materials, construction and preferred sizes of flanged stainless steel catering containers and lids made to comply with the dimensional requirements of **BS 4874** are specified. AL

30

Specification. Aluminium catering containers and lids.
United Kingdom, British Standards Institution
British Standard **BS 5313**, 4pp. ISBN 0-580-08949-5 (1976) [En] Price £1.60 [2 Park Street, London W1A 2BS, UK]

Materials, construction and preferred sizes of flanged and non-flanged Al catering containers and lids made to comply with the dimensional requirements of **BS 4874** are specified. AL

31

Specification for gas heated catering equipment. I. Ovens.
United Kingdom, British Standards Institution
British Standard **BS 5314:Part 1**, 16pp. ISBN 0-580-09241-0 (1976) [En] Price £4.70 [2 Park Street, London W1A 2BS, UK]

This part of the standard specifies requirements and tests for natural convection ovens and forced convection ovens. AL

32

Specification for gas heated catering equipment. II. Boiling burners.
United Kingdom, British Standards Institution
British Standard **BS 5314:Part 2**, 23pp. ISBN 0-580-09261-2 (1976) [En] Price £4.70 [2 Park Street, London W1A 2BS, UK]

This part of the standard specifies requirements and tests for appliances having boiling burners of the open type or solid type for heating removable pans, kettles and stockpots. The appliances include ranges, boiling tables, stockpot stands and separate boiling burners. AL

33

Specification for gas heated catering equipment. III. Grillers and toasters.
United Kingdom, British Standards Institution
British Standard **BS 5314:Part 3**, 16pp. ISBN 0-580-09431-6 (1976) [En] Price £4.70 [2 Park Street, London W1A 2BS, UK]

This part of the standard specifies requirements and tests for grillers and toasters in which food is placed under a heated radiant surface and for grillers on which food is placed above a heat source. AL

34

Specification for gas heated catering appliances. IV. Fryers.
United Kingdom, British Standards Institution
British Standard **BS 5314:Part 4**, 13pp. ISBN 0-580-09457-X (1976) [En] Price £4.70 [2 Park Street, London W1A 2BS, UK]

This part of the standard specifies requirements and tests for fryers of the type used in restaurants and catering establishments for deep frying, but does not apply to fish frying ranges such as are generally used in establishments whose main purpose is the preparation of fried fish and chips. AL

35

Specification for gas heated catering equipment. V. Steaming ovens.
United Kingdom, British Standards Institution
British Standard **BS 5314:Part 5**, 15pp. ISBN 0-580-09171-6 (1976) [En] Price £4.70 [2 Park Street, London W1A 2BS, UK]

This part of the standard specifies requirements and tests for steaming ovens normally used for steaming food, and covers atmospheric types and those having a working pressure of <70 mbar. AL

36

Specification for gas heated catering equipment. VI. Bulk liquid heaters.
United Kingdom, British Standards Institution
British Standard **BS 5314:Part 6**, 15pp. ISBN 0-580-09161-9 (1976) [En] Price £4.70 [2 Park Street, London W1A 2BS, UK]

This part of the standard specifies requirements and tests for water boilers, coffee urns and milk heaters that are intended for intermittent or bulk heating rather than for continuous delivery, and that operate at pressures not exceeding atmospheric. AL

37

Specification for gas heated catering equipment. VII. Water boilers.
United Kingdom, British Standards Institution
British Standard **BS 5314:Part 7**, 14pp. ISBN 0-580-09211-9 (1976) [En] Price £4.70 [2 Park Street, London W1A 2BS, UK]

This part of the standard specifies requirements and tests for automatic water boiling appliances of both atmospheric and pressure type. The appliances are designed to give continuous delivery of boiling water on demand. Tests are specified for 2 types, those providing boiling water at a continuous rate proportional to heat input, and those with automatic controls permitting storage of hot and/or boiling water when the draw-off tap is closed. AL

38

[Radioactive contamination of foods in Hungary.] Angaben über die radioaktive Kontamination von Lebensmitteln in der Ungarischen VR.
Szabo, A.
Lebensmittel-Industrie 23 (10) 457-458 (1976)
[13 ref. De, en, ru] [Inst. for Food Control & Res., Györ, Hungary]

This paper includes tables of data for total β-activity and ^{40}K and ^{90}Sr activity in various foods (fruit, vegetables, meat, fish, eggs bread) during the period 1971-1974, K and Ca concn. and total, ^{40}K and ^{90}Sr activity in school meals served in Györ in 1974, and comparative data for ^{90}Sr activity in the feed and milk of cattle. Trends in radioactive contamination of foods are discussed, and the relatively low level of transfer of dietary ^{90}Sr into the milk is considered. AJDW

39

Potential health hazards associated with reusable foodservice utensils. [Review]
Kupchik, G. J.; Katz, J.
Journal of Food Protection 40 (2) 132-134 (1977)
[33 ref. En] [Environmental Health Sci. Program, School of Health Sci., Hunter Coll., City Univ. of New York, 105 East 106th Street, New York 10029, USA]

Health hazards of reusable foodservice utensils are reviewed. Reports of transmission of communicable diseases through improperly sanitized utensils are included. Despite determined efforts by public health personnel and foodservice managers, utensil washing practices in public eating places continue to be unsatisfactory, with many utensils exceeding bacterial limits. AS

40

Comments on comparative study of potential health hazards associated with disposable and reusable food service utensils. [Letter]
Kupchik, G. J.
Journal of Food Protection 40 (2) 145 (1977)
[En] [Environmental Health Sci. Program, School of Health Sci., Hunter Coll., City Univ. of New York, 105 East 106th Street, New York, New York 10029, USA]

Disposable and reusable utensils (e.g. plates, bowls, cups, glasses) obtained from 15 sites (7 restaurants, 2 cafeteria, 2 'fast food' establishments, 2 hospitals and 2 schools) were subjected to microbiological examination (total bacterial count, specific bacteria commonly associated with disease). Since the fast food establishments did not utilize reusable utensils they were eliminated from the evaluation of results. In the remaining 13 establishments, reusable utensils had mean total plate counts 13 times higher than those of disposable utensils. With respect to potential pathogens, 25.5% of the reusable items and 7.0% of the disposable items gave positive results. The author suggests that contamination of disposable items resulted from mishandling at the food service establishment. JA

41

[Preparation of food, nutritive value and health aspects, with particular reference to aircraft catering.] Nahrungszubereitung. Nährwert und Gesundheit unter besonderer Berücksichtigung der Verpflegung im Flugzeug. [Lecture]
Cremer, H.-D.; Gork, F.-P.; Muskat, E.
Ernaehrungs-Umschau 23 (10) 304-307 (1976)
[8 ref. De, en] [Inst. für Ernährungswissenschaft, Justus-Liebig-Univ., Giessen, Federal Republic of Germany]

This article deals with nutrient losses in vegetable preparation, conservative cooking methods, and in-flight serving of frozen prepared dishes (with particular attention to storage, defrosting, and warming up). SKK

42

[Vitamin C has no effect on stability of vitamin B$_{12}$ in prepared foods.] Kein Einfluss von Vitamin C auf die Stabilität von Vitamin B$_{12}$ in zubereiteten Lebensmitteln.
Schindler, B.; Jäger, A.
Ernaehrungs-Umschau 23 (11) 342-344 (1976)
[5 ref. De, en] [Hoffmann-La Roche, 7889 Grenzach-Wyhlen, Federal Republic of Germany]

Usual helpings of freshly prepared canteen dishes were homogenized for 5 min and vitamin B$_{12}$ was determined by the Lactobacillus leichmannii method either (i) directly or (ii) after incubation for 30 min at 37°C with 1 g ascorbic acid added as 10% solution. No appreciable differences in vitamin B$_{12}$ content were found between (i) and (ii) samples in examination of helpings of 'Fleischkäse', same with egg and milk, chicken breast, roast loin of veal, liver 'sauer', fried liver, veal fillet in cream, and steak and egg. These results are taken to contradict the data of Herbert & Jacob [Journal of the American Medical Association (1974) 230 (2) 241] on destruction of vitamin B$_{12}$ in foods by added ascorbic acid. SKK

43

Food service research in a changing environment. [Conference proceedings]
United States of America, Society for the Advancement of Food Service Research
102pp. (1975) [En] [2710 N. Salisbury Street, West Lafayette, Indiana 47907, USA]

The Proceedings of the 31st Conference of the Society, held in Toronto, Ontario, Canada on 9-11 Oct., 1975, includes the following papers: A new era in the field of consumerism - what's really happening, by N. H. Steorts (pp. 1-7); Energy conservation in food service, by E. L. Davis (pp. 8-10); Research needs of food service equipment, by M. S. Tjarks (pp. 11-16); Packaging research needs, by E. S. Leonard, (pp. 17-23); Research in marketing, by R. K. Shannon (pp. 24-26); Completed, current, and future USDA food service productivity research, by J. F. Freshwater (pp. 27-34); Food equipment-industry accomplishments, by G. D. Bell (pp. 35-37); Consumer attitudes toward food service, by J. Y. Wallace (pp. 38-44); Cost and quality analysis of convenience processed and on-premise processed produce, by M. Simon (pp. 45-54); Value analysis used to select market form of food, by L. M. McProud (pp. 55-60); The food service industry of 1985-1990, by T. J. Powers (pp. 61-68); Strategies for increasing new food product acceptance in food service systems, by L. M. Reneghan (pp. 68-74); Food service research projects at Purdue University, by A. C. Avery (pp. 75-78); Food service research projects at University of Missouri, by L. W. Hoover (pp. 78-81); Food service research projects at University of Iowa and Iowa State University, by A. M. Crowley (pp. 81-84); [Continued in following abstr.]   AL

44

Food service research in a changing environment.
[Conference proceedings]
United States of America, Society for the Advancement of Food Service Research
102pp. (1975) [En] [2710 N. Salisbury Street, West Lafayette, Indiana 47907, USA]

[Continued from preceding abstr.] The test kitchen's varied roles in research, by M. W. Neale (pp. 85-88); Major energy use areas in food processing and food service industries, by A. C. Avery (pp. 89-90); Microwave energy in food service, by R. V. Decareau (pp. 91-95); and Food service sanitation, by R. H. Whelan (pp. 96-102). Discussion follows some individual papers or groups of papers.   AL

45

Fate of Staphylococcus aureus in beef-soy loaves subjected to procedures used in hospital chill foodservice systems.
Bunch, W. L.; Matthews, M. E.; Marth, E. H.
Journal of Food Science 42 (2) 565-566 (1977) [7 ref. En] [Dep. of Food Sci., Univ. of Wisconsin, Madison, Wisconsin 53706, USA]

Staph. aureus was inoculated into uncooked mixtures of ground beef and soy protein and survival of the organism was determined during the stages of food handling that would occur in a hospital with a chill foodservice system. Although the initial inoculum was only approx. 5000/g, heating the mixture as loaves in a convection oven at 121° C to an internal temp. of 60° C was not lethal to Staph. aureus. Numbers of Staph. aureus in loaves decreased during holding at 5° C for 24, 48 and 72 h. Numbers of Staph. aureus in the centre of the final product were <3/g after loaves were portioned, held chilled at 5° C for 2 h, and portions heated to 80° C in a microwave oven.   IFT

46

Small hospital keeps the lid on costs by combining FF and microwave ovens.
Anon.
Quick Frozen Foods 38 (7) 42B, 42D (1976) [En]

Consideration is given to the way in which the 200-bed Community Methodist Hospital in Henderson, Kentucky, can now serve 18 000 meals/month with the same number of chefs formerly used to produce 8000. A food service system has been developed, based on the use of frozen convenience foods and microwave ovens. It has enabled the hospital to provide quality food with min. expense and max. efficiency. The tray assembly line is manned by 3 people who, after checking the menus selected by the patients, assemble the items on the trays. These are then taken to the floor pantries, and placed in the ovens for from 40 s to 1 min. A floor with 60 patients can be served in 1 h.   VJG

47

[Canned goulash as an example of modern production methods for ready-to-eat meals.]
Moderne Technologien bei der Fertiggerichtherstellung am Beispiel von Gulaschkonserven.]
Reichert, J. E.
Fleischwirtschaft 57 (3) 373-381 (1977) [8 ref. De] [Konserven-Inst. Neumünster eV, Wasbeker Strasse 324, 2350 Neumünster, Federal Republic of Germany]

Ready-to-eat meals were classified by their production technology into 3 groups, i.e. those sterilized by convection, by conduction, and by combination of the 2 heating methods. The effect of production parameters (recipe, type and size of container, production technology, heating process and sterilization temp.) on the quality of the product is illustrated by means of canned goulash produced by the usual domestic method, from uncooked meat and cold-produced sauce, or entirely from uncooked ingredients. Recipes, procedures and heating conditions, sterilization temp. and methods (stationary or rotation) are described and results compared. Rotation sterilization at 30 rev/min achieved the best sensory quality, highest autoclave utilization and lowest cooking loss.   RM

48

Freezing prepared meals.
Slade, E.
Food Processing Industry 46 (542) 21-22 (1977) [En]

Consideration is given to the application of cryogenic freezing techniques to cook/freeze systems, with particular reference to the use of CO_2 freezing. A brief description is given of batch cryogenic freezing using the Küleg batch unit.
VJG

49

Quantity food production labor time.
Waldvogel, C. F.; Ostenso, G. L.
Journal of the American Dietetic Association **70** (2) 172-177 (1977) [13 ref. En] [Health Sci. Cent., Univ. of Oklahoma, Oklahoma City, Oklahoma, USA]

The development of a standard data code applicable to predetermining labour time in quantity food production is described. Observations were made in a 2000 meal/day food service system to determine basic activities common to the production of single-item entrees. A Master Standard Data (MSD) Quantity Food Production Code was developed through the use of MDS and verified by stop-watch time study. 3 formulas for single-item entrees were analysed divided into basic elements of production from which production time for preparation of 100 portions of each entree was synthesized. Differences between synthesized time values determined by applying the MSD and stop-watch techniques were within acceptable limits. The code was therefore considered valid and reliable, and could serve as a structural framework for establishing a universal data code applicable to all aspects of quantity food production. VJG

50

Labor time per portion and volume in foodservice.
Waldvogel, C. F.; Ostenso, G. L.
Journal of the American Dietetic Association **70** (2) 178-180 (1977) [4 ref. En] [Health Sci. Cent., Univ. of Oklahoma, Oklahoma City, Oklahoma, USA]

Experiments were designed to estimate production time in relation to vol. based on 2 standardized entree formulas (baked liver, and meat balls with mushroom sauce). Differences in production time between 100, 200 and 500 portions were determined. The preparation procedure for each product was then analysed and broken down into basic elements of production. The MSD Quantity Food Production Code [see preceding abstr.] was applied and the total production time for each experiment was synthesized. The resulting predetermined production times were analysed in relationship to total vol. and time per portion. Labour time/portion was shown to decrease as production vol. increased. The decrease in time/portion was not directly proportional to the increase in vol., but resembled an exponential relationship. As vol. approached system capacity, the decrease in production time/portion began to stabilize. VJG

51

Design to reduce cleaning costs.
Simpson, J. B.
British Food Journal **79** (876) 21-23 (1977) [En]

The design principles involved in producing catering premises which are easily and efficiently cleaned are considered. Options for improvement include changes in cooking methods, provision of services and methods of cleaning. JRR

52

[Use of new, highly nutritive products for feeding children of school age.]
Fateeva, E. M.; Balashova, V. A.; Kodryan, N. Yu.; Zelichenok, M. I.; Rabinovich, L. A.; Korobkina, G. S.; Brents, M. Ya.; Danilova, E. N.; Levyant, P. P.; Kurbatova, N. Ya.
Voprosy Pitaniya No. 2, 49-53 (1977) [8 ref. Ru, en] [Inst. Pitaniya AMN SSSR, Moscow, USSR]

As part of an attempt to produce a high-value diet for school children aged 13-16 yr, the contents of protein (total and animal origin), fats (total and vegetable origin) and carbohydrates of 11 products were determined. The products were: protein-mineral supplement, fortified high-protein dried milk, French rolls, bread rolls, fortified rye bread, fortified pasta, fortified cassava groats, quarg, dietetic smetana and dietetic kefir. The effect of 3 different diets on various biological characteristics are discussed. HBr

53

How to brew coffee in restaurants and coffee houses.
Anon.
Indian Coffee **41** (1) 5-13 (1977) [2 ref. En]

Guidelines are given on the preparation of good quality coffee, based on work done by the Coffee Technology Unit of the Central Food Technological Research Institute, Mysore. They include suggestions on equipment cleanliness (where to look for dirt, how to clean), the grind of the coffee powder, roasting, method of brewing (main requirements for proper brewing, ratio of powder:water, water temp. and quality, extraction methods), keeping quality of the brew, quality of the milk, some common defects and their remedy, and information on nutritive value, caffeine content and composition of coffee and coffee solids. Data on some common sizes of filters, coffee making techniques, efficiency of extraction at different powder:water ratios, coffee making schedules (cost/cup), nutritive value, important constituents, and composition of roasted, soluble and brewed coffee are presented in tabular form. RM

54

Microwave cooking and ready meals. (In 'Proceedings of the 6th European Symposium' [see FSTA (1977) 9 10G719].) [Lecture]
Bengtsson, N.; Ohlsson, T.
pp. 72-93 (1975) [24 ref. En, de, fr] [Swedish Inst. for Food Preservation Res., Göteborg, Sweden]

The background and fundamentals of microwave heating, estimation and calculation of temp. rise, the estimation of how product and heating parameters will influence temp. development with time, and the importance of this time-temp. exposure of food to product yield and quality are discussed. The very rapid heating possible using microwaves should allow the heating of ready meals and meal components with less wt. loss and better retention of organoleptic and nutritional quality than in conventional heating, if good control of time-temp. development can be maintained. AL

55

[The Salmonella epidemic in Göteborg in the late summer of 1976 - food hygiene aspects.]
Hansson, T.
Svensk Veterinartidning 29 (7) 283-287 (1977)
[Sv]

A major outbreak of food poisoning by Salmonella enteritidis in Göteborg, Sweden in Aug.-Sept. 1976 is described; 1038 people were infected. The source of infection was identified as dining facilities in a ferry from Göteborg to Fredrikshamn; faeces samples of 2 kitchen personnel on this ferry were Salmonella-positive. Tests on food from the dining facilities showed 7 of 72 samples of heat-treated prepared foods and 32 of 62 samples of non-heated prepared foods to be Salmonella-positive. None of 28 samples of non-prepared foods were Salmonella-positive. Deficiencies in kitchen layout and cleaning procedures are briefly considered. AJDW

56

[Central and industrial production of ready-to-serve meals for various systems of communal feeding.]
Zentrale und industrielle Herstellung von Speisen für die verschiedenen Systeme der Gemeinschaftsverpflegung.
Eichner, K.
Alimenta 16 (3) 71-79 (1977) [33 ref. De, en]
[Inst. für Lebensmitteltechnologie & Verpackung, Tech. Univ., D-8000 München 50, Federal Republic of Germany]

The different types of meals for communal feeding are discussed, i.e. meals kept warm, refrigerated, pasteurized and refrigerated, deep-frozen, sterilized and dried. Detailed consideration is given to their preparation, packaging, storage and transport temp., max. shelf life, final preparation, distribution, special requirements, retention of nutrients and possible applications. Depending on specific requirements, different systems can be used. The max. turnover times for meals are determined by the shelf lives of individual foods prepared by different methods of preservation. The main advantages of industrially prepared meals are increased flexibility, quick preparation for final consumption, and economy in labour and equipment. RM

57

Foodservice planning: layout and equipment. [Book]
Kotschevar, L. H.; Terrell, M. E.
Ed. 2, xv + 601pp. ISBN 0-471-50491-2 (1977) [many ref. En] Chichester, Sussex, UK; John Wiley & Sons Ltd. Price £13.75; $23.00 [Dep. of Hotel Administration, Univ. of Nevada, Las Vegas, Nevada, USA]

This book is intended not only for those actively engaged on study or planning of food facility layouts, such as architects and students of architecture, educators, and students in foodservice management, equipment manufacturers and dealers, planners of food facilities and consultants, but also for dietitians and other food managers who will be responsible for operating facilities. The book is divided into 4 chapters: Planning (pp. 3-159); Functional areas of food facilities (pp. 163-315); Supporting factors and physical conditions (pp. 320-405); and Equipment selection (pp. 406-570). Chapters included are: Preparation for planning (pp. 3-25); Characteristics of food facilities (pp. 26-50); Layout analysis (pp. 51-94); Operational aspects in layout planning (pp. 95-119); Space allocations (pp. 120-159); Functional outline and check list (pp. 163-174); Receiving and storage (pp. 176-189); Food processing (pp. 190-229); Serving facilities (pp. 230-273); Housekeeping sections (pp. 274-305); Management office and facilities for employees and guests (pp. 307-315); Energy and electricity (pp. 320-335); Lighting (pp. 337-347); Water, steam, and plumbing (pp. 350-359); Environmental planning (pp. 360-387); Sound control (pp. 388-396); Floors and walls (pp. 398-405); General principles for equipment selection (pp. 406-443, 6 ref.); [Continued in following abstr.] VJG

56

Foodservice planning: layout and equipment. [Book]
Kotschevar, L. H.; Terrell, M. E.
Ed. 2, xv + 601pp. ISBN 0-471-50491-2 (1977) [many ref. En] Chichester, Sussex, UK; John Wiley & Sons Ltd. Price £13.75; $23.00 [Dep. of Hotel Administration, Univ. of Nevada, Las Vegas, Nevada, USA]

[Continued from preceding abstr.] Mechanical equipment (pp. 444-462); Cooking equipment (pp. 464-487); Serving equipment (pp. 489-506); Refrigeration and low-temperature storage equipment (pp. 508-519); Auxiliary equipment (pp. 522-533); Transportation and mobile equipment (pp. 534-552); and Utensils and tableware (pp. 554-570). An appendix (pp. 572-588) is included. VJG

57

Food service in institutions. [Book]
West, B. B.; Wood, L.; Harger, V. F.; Shugart, G. S.
Ed. 5, viii + 839pp. ISBN 0-471-93393-7 (1977) [many ref. En] Chichester, Sussex, UK; John Wiley & Sons Ltd. Price £13.50; $23.00

This book is intended to be used as a basic text by students in food systems management and as a ready reference by the people actively engaged in the planning production, and service of meals for larger than family size groups. Meal planning and food standards, have been left in one chapter, while Delivery and service of food, is a newly added chapter. Less space is given to food products and their preparation, since these areas are well covered in prerequisite courses. The chapters on Personnel organization and administration, sanitation and Safety, and Financial control, are updated. The book is divided into 3 sections: Quantity food service (pp. 3-338); Organization and administration (pp. 341-630); and Physical facilities (pp. 633-805). Chapters included are: Foodservice systems and their development (pp. 3-33, 24 ref.); Meal planning and food standards (pp. 35-80, 13 ref.); Food selection and storage (pp. 81-203, 32 ref.); Quantity food production (pp. 205-299, 21 ref.); Delivery and service of foods (pp. 301-338, 14 ref.); Organization and management (pp. 341-379, 34 ref.); Administrative leadership (pp. 381-411, 19 ref.); [Continued in following abstr.] VJG

58

Food service in institutions. [Book]
West, B. B.; Wood, L.; Harger, V. F.; Shugart, G. S.
Ed. 5, viii + 839pp. ISBN 0-471-93393-7 (1977) [many ref. En] Chichester, Sussex, UK; John Wiley & Sons Ltd. Price £13.50; $23.00

[continued from preceding abstr.] Personnel management (pp. 413-463, 25 ref.); Cost control (pp. 465-550, 23 ref.); Sanitation and safety (pp. 551-630, 45 re,); Floor planning and layouts (pp. 633-709, 21 ref.); Equipment for kitchens and serving rooms (pp. 711-767, 11 ref.); Furnishings and equipment for dining rooms (pp. 769-805, 12 ref.). 2 appendices are included: Plans for the organization of college residence halls (pp. 807-827); and Conversion tables (pp. 828-830). VJG

59

Casseroles and vegetables for foodservice menu planning. [Book]
Blair, E. C.
278pp. ISBN 0-8436-2121-4 (1976) [En] Boston, Massachusetts, USA; Cahners Books International Inc. Price $12.50

The casserole section of the book has some 140 recipes for dishes made with cheese, eggs, poultry, seafood and a comprehensive range of meats. The vegetable section contains > 125 recipes for a wide variety of vegetables from the potato to whole okra pods. Hints on handling, seasoning, combining vegetables, stuffing them and serving chilled are included. The extensive assortment of recipes includes a variety of scalloped dishes, souffles, vegetable casseroles, and hash. AL

60

Specification for aluminium foil catering containers.
United Kingdom, British Standards Institution
British Standard BS 5439, 8pp. ISBN 0-580-09670-X (1977) [En] Price £1.60 [2 Park Street, London, W1A 2BS, UK]

This standard specifies the materials and range of sizes of Al foil containers which may be used in the preparation, processing, freezing, cooking, cold storage, transport, regeneration, presentation and serving of food. AL

61

Some influences of foodservice managerial policies upon direct energy consumption.
Unklesbay, N. F.; Unklesbay, K. B.
Journal of the Canadian Dietetic Association 38 (3) 229-237 (1977) [9 ref. En] [Food Sci. & Nutr., 221 Gentry Hall, Univ. of Missouri-Columbia, Columbia, Missouri 65201, USA]

This research study demonstrates how some foodservice administrative policies and decisions about food forecasting, procurement, production and service to consumer (e.g. hospital patients) directly affect accumulated energy expenditures. The chicken menu items analysed represent procedures used within different food service systems (data are given for direct energy consumption), and show how changes in some policies could help energy conservation. AL

62

Batchelors Foods install Autopack weighers.
Anon.
Food Trade Review 46 (12) 727-728 (1976) [En]

At their factory in Ashford, Kent, Batchelors use about 300 different raw materials and approx. 450 items of packaging materials. The preparation of soup mixes and Vesta Ready Meals is described. For expensive ingredients accurate equipment for measuring small quantities fast is essential. 2 Autopack 272 quadsets are used for handling ½ - ¾ inch dried beef cubes for Vesta Beef Curry, at speeds up to 80 weighs/min, in wt. of 170 g upwards. The ingredients are filled into plastics/Al laminate envelopes. Some of the assembly of sachets into cartons is carried out on hand assembly lines. Cartoning is semi-automatic at the rate of > 60 cartons/min. VJG

63

[Canned prepared meals.] Sterilkost - Fertiggerichte (Vollkonserven).
Schwebel, W.
GV-Praxis mit Tiefkühlpraxis 17 (5) 93-94 (1977) [De]

Manufacture of heat-sterilized prepared foods (in cans, jars or flexible packs) is discussed, with reference to filling, sealing and sterilization (at 121-140° C) of the packs, and storage, transport and reheating of the product. Advantages and disadvantages for the manufacturer and for the user are discussed, with special reference to use of these products in the catering industry. AJDW

64

[Frozen prepared meals.] Tiefgefrierkost-Fertiggerichte (Tiefkühlkost).
Schwebel, W.
GV-Praxis mit Tiefkühlpraxis **17** (4) 73-74 (1977) [De]

Manufacture of frozen prepared meals for use in the catering industry is briefly discussed, with reference to: freezing conditions for optimum quality retention; storage life; disposable vs. re-usable containers; single-portion vs. multi-portion packs; permissible temp. variation during transport and storage; changes in organoleptic properties and nutritional value during storage; and advantages and disadvantages for the manufacturer and the user. AJDW

65

[Skilful deep-fat frying of foods.] Fachgerechtes Fritieren.
Doll, U.
GV-Praxis mit Tiefkühlpraxis **16** (12) 26, 28-29 (1976) [De]

Deep-fat frying of foods is discussed, with special reference to its use in the catering industry. Aspects considered include: problems with excessive fat content of dried foods; selection of suitable frying fats; quality evaluation of frying fats; temp. control; practical aspects of frying; deterioration of frying fats, and its detection; the food/fat ratio; uptake of fat by foods during frying; and legal aspects of deep-fat frying in the Federal Republic of Germany. AJDW

66

[The Dyno Catering Pac system.] Das Dyno Catering Pac-System.
Johnson, O. D.
Neue Verpackung **30** (2) 148, 150 (1977) [De]

The firm of Dyno have developed the 'Cat Pac', a system designed for simple packaging of foods for catering purposes. It consists of a special preformed steep-sided plastics[?] dish without any folds (to reduce microbiological contamination hazards) and capable of withstanding temp. from -50° to +120° C; a heat-sealable lid; and a sealing machine. HBr

67

Packaging improves food service productivity.
Dover, R. L.; Brody, A. L.
Food Technology **31** (4) 40, 45-46, 48 (1977) [34 ref. En] [Mead Packaging, PO Box 4417, Atlanta, Georgia 30302, USA]

The role of packaging in improving retail food service operations is discussed, with particular emphasis on 'fast-food' systems. Such systems use pre-packaged foods: there are virtually no food losses within fast-food establishments, since all waste has been removed at the processing plant. Examples of pre-packaged foods are frozen hamburger patties and frozen French-fried potatoes. Consideration is given to the use of pre-packaged orange and tomato juices and of pre-packaged, unit-portion, single-strength juices in retail food service establishments and also to the place of packaging within the total food processing system. JA

68

[Importance of school milk temperature from the hygienic, organoleptic and medical viewpoints.] Die Bedeutung der Temperaturen von Schulmilch aus hygienischer, sensorischer und medizinischer Sicht.
Wietbrauck, H.
Molkerei-Zeitung Welt der Milch **31** (24) 769-770 (1977) [10 ref. De] [Bundesanstalt für Milchforschung, Kiel, Federal Republic of Germany]

Various aspects of school milk under particular storage conditions, most acceptable milk temp. in relation to season, and medical aspects of drinking cold milk are briefly discussed. It is concluded that cold school milk, as required by hygienic and organoleptic considerations, is satisfactory also from the medical point of view. FL

69

Food science - a chemical approach. [Book]
Fox, B. A.; Cameron, A. G.
Ed. 3, 380pp. ISBN 0-340-21366-3 (hardback), ISBN 0-340-20962-3 (paperback) (1977) [many ref. En] PO Box 702, Dunton Green, Sevenoaks, Kent, UK; Hodder & Stoughton Ltd. Price £4.75 (hardback); £2.45 (paperback)

This book is intended for all concerned with elementary food science, in particular students of food science and technology, home economics, catering and nutrition. Chapters are: Food and its function (pp. 11-21); Enzymes and life (pp. 22-32); Digestion and absorption (pp. 33-41); Basic chemistry (pp. 42-68); Alcohols and acids (pp. 69-91); Oils, fats and colloids (pp. 92-130); Carbohydrates, I - sugars (pp. 131-150), II - polysaccharides (pp. 151-188); Amino acids & proteins (pp. 189-223); Water and mineral elements (pp. 224-247); Vitamins (pp. 248-272); Cooking and diet (pp. 273-304); Food spoilage, preservation and hygiene (pp. 305-342); and Chemicals in food (pp. 343-361). Suggestions for further reading follow each chapter. A general reading list and an index are included. AL

70

[The problem of keeping meals warm.] Zur Problematik des Warmhaltens von Speisen. [Review]
Nowak, I.; Paulus, K.
Lebensmittel-Wissenschaft und -Technologie **10** (2) 61-72 (1977) [37 ref. De, en] [Bundesforschungsanstalt für Ernährung, Engesserstrasse 20, D-75 Karlsruhe, Federal

Republic of Germany]

This review deals with the general problems of keeping prepared cooked vegetable dishes warm; with effects of this treatment on quality of a number of vegetable dishes with particular reference to losses of ascorbic acid and also of DM, thiamin and riboflavin; and with hygiene aspects of the procedure. SKK

71

Evaluation of state foodservice sanitation programs.
Townsend, L.
Journal of Food Protection 40 (7) 499-502 (1977) [2 ref. En] [Bureau for Health Services, 275 East Main Street, Frankfort, Kentucky 40601, USA]

Outlined are procedures for evaluating foodservice sanitation programmes with State Foodservice Sanitation Rating Officers certified by the FDA of the USA. Modifications are outlined to provide more continuity between the sanitary status of the establishments within the jurisdiction being evaluated and enforcement programme being carried out by the regulatory agency. A greater degree of programme uniformity is needed as the present trend of interjurisdictional movement of prepared foods for direct service to the consumer continues and increases. The increasing number of chain foodservice establishments also increases the need for standardized and certified foodservice programmes and personnel. AS

72

An unusual outbreak of food-poisoning associated with meals-on-wheels.
Jephcott, A. E.; Barton, B. W.; Gilbert, R. J.; Shearer, C. W.
Lancet 2 (8029) 129-130 (1977) [8 ref. En] [Public Health Lab., N. General Hospital, Sheffield S5 7AU, UK]

An outbreak of food poisoning affecting 49 people (1 of whom died) served a meals-on-wheels lunch (roast chicken, stuffing, potatoes, green beans, gravy, raspberry crumble and custard) is described. Temp. of the food was 80° C at dispatch, falling to 46-50° C at the end of the delivery round, 2 h later. Symptoms were compatible with infection by Bacillus spp. or Clostridium perfringens. Bacteriological studies showed that B. cereus serotype 10 and B. lichenformis were present in the food and in isolates from the patients; Cl. perfringens was present in isolates from patients, but not in the food. The danger of growth of food poisoning organisms in foods held warm during distribution is discussed; it is recommended that holding times should be short, and that high temp. should be maintained. AJDW

73

Cost of using permanent vs. disposable ware.
Montag, G. M.; McMillen, F. M.; Henry, R. M.
Journal of the American Dietetic Association 70 (4) 377-381 (1977) [19 ref. En] [Iowa State Univ., Ames, Iowa, USA]

Investigations were carried out into the total costs of using permanent vs. disposable ware in 2 schools using different systems. In the permanent ware study, food was prepared in a centralized kitchen in the high school for approx. 2800 students and transported by truck to the satellite schools. In the disposable ware study, the meals were prepared at a high school, portioned into disposable, compartmented Styrofoam trays with hinged lids, packed in shipping containers and delivered by truck to the grade school. The findings indicate an economic advantage in using permanent ware over disposable ware in the schools studied (i.e. 4 vs. 10 cents/student). The cost of the ware itself accounted for 2.5% of the total cost in the permanent ware system and 62.5% in the disposable ware system. Although the findings in the schools studied point to an economic advantage in the use of permanent ware, there may be reasons for eliminating the dishwashing process. VJG

74

[Tests with new types of bread for afternoon snacks at school.]
Hofvander, Y.; Kylberg, E.; Mellbin, T.
Näringsforskning 21 (1) 29-35 (1977) [1 ref. Sv, en] [Skolhälsovarden, Bredgränd 4, 753 20 Uppsala, Sweden]

A comparative study was conducted on 5 types of protein-fortified rolls to be used in an afternoon snack programme in schools. Trials were conducted using a total of 544 school children. The various types of roll were fortified with (i) 'S 67' (a milk protein preparation), (ii) 2 levels of eviscerated fish protein concentrate, (iii) soya flour + fish protein concentrate, or (iv) Semper 'Fyrismix' [not further defined]. Tables of value are given for the preference scores for taste, colour, sweetness, size, dryness and overall acceptability of the rolls, broken down by age and sex of child. Overall, the rolls fortified with (i) were rated highest, and those fortified with (iv) were rated lowest, acceptability of those fortified with (ii) and (iii) being intermediate. However, all types of rolls studied were highly acceptable. AJDW

75

[Catering equipment. Guide-rails for insertion of containers (in equipment for preparing and serving foods).]
Yugoslavia, Jugoslovenski Zavod za Standardizaciju
Yugoslavian Standard JUS M.R5.002, 2pp. (1975) [Sh]

76

[Catering equipment. Containers for preparing and serving foods.]
Yugoslavia, Jugoslovenski Zavod za Standardizaciju
Yugoslavian Standard JUS M.R5.001, 3pp. (1975) [Sh]

This standard applies to kitchen ranges and stoves, cookers (including pressure cookers, hotplates), self-serving equipment (e.g. trays), trolleys and the like. It covers shape, size, materials and quality. HBr

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H. BROOKES
ASSISTANT EDITOR

1

Evaluation of a fast food management training program: one year later.
Jackson, B. B.; Hatlen, J. B.; Palmer, B. J.
Journal of Food Protection 40 (8) 562-565 (1977) [2 ref. En] [Dep. of Environmental Health, Univ. of Washington, SC-34, Seattle, Washington 98195, USA]

This report summarizes an earlier short-term evaluation [see Journal of Environmental Health (1975) 37 364-368] of a fast food restaurant manager training programme and presents results from a re-evaluation approx. 1 yr later. 31 establishments in a single corporation were evaluated using criteria from the United States Public Health Service Food Service Sanitation Manual. Only 12 of the 31 original managers were still with the corporation 18 months after the start of the project. Those managers who participated in the training programme tended to maintain or increase the sanitary quality in their establishments when compared with the short-term effects of training. The sanitary quality of the establishments with new managers that had joined the corporation after the training scheme was completed usually reverted to a quality similar to that before the start of the project which was generally unsatisfactory. AS

2

On the economics of justifying a preventive public health program through benefit-cost analysis: the case of restaurant inspections.
Kaplan, O. B.; El-Ahraf, A.
Journal of Food Protection 40 (8) 566-568 (1977) [8 ref. En] [Dep. of Environmental Health Services, San Bernadino, California 92407, USA]

Standard benefit-cost analysis cannot adequately measure the benefits of preventive health programmes. People's attitudes, behavioural reactions, and willingness to pay must be taken into account when justifying preventive health programmes through benefit-cost analysis. A focus on restaurant sanitation inspection programmes illustrates the shortcomings of standard benefit-cost analysis. AS

3

[Staphylococcal food poisoning.]
Danielsson, M.-L.; Hansson, T.
Var Föda 29 (5) 191-196 (1977) [11 ref. Sv, en] [Inst. för Livsmedelshygien, Veterinärhögskolan, Stockholm, Sweden]

An outbreak of staphylococcal food poisoning at a school near Göteborg is described. The outbreak involved 28 of 46 people who had consumed a lunch comprising grilled 'Kassler' pork loin, mashed potatoes and mixed vegetables. Bacteriological investigations revealed the presence of coagulase-positive staphylococci (at counts >300 000/g) in the pork loin; type A enterotoxin was also detected. The meat had been purchased (ready-grilled) the day before, and stored overnight in a refrigerator. Investigations at the shop from which the pork loin was purchased showed throat and nose swabs from 3 employees (2 of whom worked in the grilling section) to be positive for coagulase-positive staphylococci forming type A enterotoxin. Diagnosis of staphylococcal food poisoning is briefly discussed, with special reference to the micro-slide double diffusion test for enterotoxins. AJDW

4

Hospital becomes food processor.
Wegener, R. H.
Food Engineering International 2 (9) 38-41 (1977) [En, de, fr, es] [Austin Co., Cleveland, Ohio, USA]

A description and a plan diagram are given of a central food processing facility in Dudley Park, Adelaide, Australia, which serves 17 hospitals and institutions. Raw materials are stored at -30° or +4° C, vegetables can be peeled automatically, and various automatic steam kettles, deep fryers, rack ovens and a continuous broiler are installed in the kitchen. Processed food is filled into multi-portion freeze-pack trays of single menu items; the trays are polypropylene-coated board. Liquid N_2 tunnel freezers are used, each capable of freezing 4070 kg/8 h shift. High-density frozen storage is maintained by a 600-kg stacker crane. 25 000 meals/day can be produced; this can be doubled (e.g. for an emergency community food supply) by working 2 shifts. DIH

5

Proceedings of fall 1976 meeting. Prospectives in food science and food packaging 1976-1996.
[Conference proceedings]
United States of America, US Army Natick Research and Development Command
Activities Report 29 (1) iv + 71pp. (1977) [En] [Natick, Massachusetts, USA]

Proceedings of the meeting consist of lecture papers in which the military authorities outline their needs as regards food, food servicing, packaging, equipment, etc. (pp. 9-30), plus summaries of 8 concurrent technical workshop sessions, including discussions, presented by their chairman in the final session of the meeting (pp. 31-69). Individual papers include: Research and development associates for food and packaging, by H. A. Griffith (pp. 4-8); Future navy needs and objectives in food service research and development, by T. Piazza (pp. 9-13); Air force service objectives, by R. M. Merwin (pp. 14-17); The army requirements, by E. W. Bowers (pp. 18-22); Future marine needs and objectives in food service research and development, by E. V. Cox (pp. 23-25); The procurement agency, by J. C. Shepard (pp. 26-30); Packaging systems considerations, by E. A. Nebesky & M. Karel (pp. 31-36); End item tests for quality assurance, by J. W. Giffee & T. V. Kueper (pp. 37-42); New products for the military services, by H. A. Hollender & J. Brooks (pp. 43-46); Improving shelf-life of rations, by D. E. Westcott & W. A. Brittin (pp. 47-53); Natick food systems equipment programs, by R. A. Lampi & J. H. Holman (pp. 54-58); Hospital food service, by R.

S. Smith & J. Stoneham (pp. 59-61); Consumer factors in food service, by H. L. Meiselman & E. Skinner (pp. 62-65); and Mass feeding in remote areas, by R. L. Bustead & G. E. Livingston (pp. 55-69). AL

6

Space shuttle food system.
Bourland, C. T.; Rapp, R. M.; Smith, M. C., Jr.
Food Technology **31** (9) 40-41, 44-45 (1977) [4 ref. En] [Tech. Inc., 17311 El Camino Real, Houston, Texas 77058, USA]

Following a brief discussion of the construction of the Orbiter spacecraft and its role in the US Space Shuttle programme, consideration is given to the Orbiter's galley (diagram included) where food will be prepared, served and stored. The oven is a forced-air convection heater with a max. temp. of 185°F and a holding temp. of 145°F. Efforts are being made to simplify food packages for use in the spacecraft and examples of some proposed packages are given, e.g. rehydratable packages having a septum which allows use of a 15-gauge needle for water injection, flexible film packages for bite-size and ready-to-eat items, conventional Al cans and flexible pouches for thermostabilized foods, beverage containers having a push-pull valve. Also discussed are food preparation procedures in the galley and the types of food to be used, largely dehydrated. The menu will be of a standard 6-day type, consisting of 3 meals/man-day plus additional snacks and beverages; the daily menu is designed to provide an average of 3000 kcal/crew member. AS

7

SA catering food survey.
Market Research Africa (Pty) Ltd.
South African Food Review 4 (1) 69, 73, 81 (1977) [En]

The results of a survey conducted in 1975 on the catering and convenience food market in South Africa are presented. Informants' opinions on trends over the past 3 yr and the next 5 yr are also considered. The survey is divided into sections on: Method of conducting the survey; Heating and reheating; Fresh and convenience foods; Source of purchase for convenience foods; Cash and carry outlets; General improvements required in convenience foods in future; Canned, frozen and dehydrated foods; Suggestions offered to suppliers of frozen, canned and dehydrated foods wishing to increase their market share; Packaging; Portion control packs; Condiments and sauces; Service; Packaged complete meals; Soups; Meat; Fish; Potatoes; Vegetables; Desserts; and Tea and Coffee. SP

8

Cutting and preparing beef.
United Kingdom, Meat and Livestock Commission
Technical Bulletin, Meat and Livestock Commission No. 17, 43pp. (1974) [En]

This manual describes and illustrates a method of cutting and preparing sides or quarters of beef into bone-in primals, boneless primals and oven-ready joints, cuts or portions. The cutting method and standard of preparation were according to a specification and quality standard for the hospital service. Contents include an index of cuts and joints, skeletal structure, position of cuts, bone-in primal cuts, boneless primal cuts, prepared cuts, yield tables, carcass specification and a glossary of terms (including positional and directional terms). RM

9

Cutting and preparing lamb and pork.
United Kingdom, Meat and Livestock Commission
Technical Bulletin, Meat and Livestock Commission No. 24, 61 pp. (1977) [En]

This manual describes and illustrates the cutting and preparation of lamb and pork from carcass form to oven-ready steaks, cuts and joints. Cutting methods and standards of preparation were according to a specification for the hospital service and are not necessarily appropriate to all sets of circumstances. Contents include an index of cuts and joints, skeletal structure, position of cuts, bone-in primal cuts, preparation of primal cuts, prepared cuts, yield tables, carcass specification, and a glossary of terms (including positional and directional terms). RM

10

The impact of government regulations on the food service industry. [Conference proceedings]
Roseman, A. S. **(United States of America,** Institute of Food Technologists) (Chairman)
Food Technology **31** (8) 68-76 (1977) [4 ref. En] [Inst. of Food Tech., 221 N. LaSalle Street, Suite 2120, Chicago, Illinois 60601, USA]

Modified versions are presented of 6 papers read at a symposium entitled 'The impact of food regulations on the food service industry' which was held during the 37th Annual Meeting of the Institute of Food Technologists in Philadelphia, Pennsylvania, USA on 5-8 June 1977. The papers were: A new era in food service sanitation, by A. S. Davis (p. 69); Regulatory aspects of ingredients in convenience foods, by O. P. Snyder, Jr. (pp. 70-71, 4 ref.); National program for food service sanitation, by C. G. Hall (p. 72); The effect of regulations on the food service industry - the operator's viewpoint, by L. J. Marano (p. 73); The effect of regulations on the food service industry - the distributor's viewpoint, by C. J. Fisher (p. 74); and Coping with local and federal regulations, by J. R. Janke (pp. 75-76). JA

11

Specification for plastics catering containers and lids.
United Kingdom, British Standards Institution
British Standard **BS 5496**, 4pp. ISBN 0-580-09964-4 (1977) [En] Price £1.60 [2 Park Street, London W1A 2BS, UK]

This standard specifies requirements for the materials, construction and preferred sizes of plastics flanged containers and lids used in the preparation, processing, freezing, cold storage, transport, presentation and serving of cold food. It excludes cooking and regeneration applications. Materials shall be suitable for one of the following temp. ranges: -15° to +50°C for food or equipment storage; -20° to +50°C for frozen food storage; or -40° to +50°C for blast freeze/frozen food storage. All materials must withstand continual changes within the range and regular exposure for ≤5 min during washing and rinsing to a temp. of at least +83°C.   AL

12

[Catering products and prospects for their development in Romania.]
Nicolau, E.
Revista de Cresterea Animalelor **27** (2) 48-49 (1977) [Ro]

Advantages of the use of frozen prepared or semi-prepared foods in the catering industry are briefly discussed. Products currently manufactured in Romania are listed, including soups, sauces, meat products, prepared meals, dietetic foods, and desserts. Packaging of frozen foods for the catering trade is also briefly considered.   AJDW

13

Proceedings of spring 1977 meeting. Theme: Perspectives in food, packaging and equipment systems 1977. [Conference proceedings]
United States of America, Research & Development Associates for Military Food & Packaging Systems Inc.
Activities Report **29** (2) v + 131pp. (1977) [En]

Proceedings of the meeting, held on 19-21 April 1977 at the Biltmore Hotel, New York City, contain introductory lectures (pp. 1-34), summaries and papers given at workshop sessions (pp. 35-113), and seminar and workshop on government and military specifications and procurement (pp. 114-131). Workshop sessions deal with Food service equipment forecast (pp. 35-53); Human factors in food service operations (pp. 54-60); Ingredients, present and future (pp. 61-88); Engineered foods forecast (pp. 89-90); and Packaging systems (pp. 91-113). Individual papers include: Food chariot systems, by J. H. McNamara (pp. 38-42); Equipment for rapid chilling, by L. A. Hess (pp. 43-46); Multi-purpose oven, a summary of the process, by S. L. Lodwick, Sr. (pp. 47-50); Food service equipment forecast, by M. E. McCormack (pp. 51-53); Soy flour, soy protein concentrate and textured soy proteins - their properties and applications in military food systems, by J. W. Robinson (pp. 62-66); The soybean industry, general processes, products and definitions, by F. E. Horan (pp. 67-73); Approaches to engineered reduced meat costs, by J. Secrist (pp. 74-75); High fructose corn syrups - their application and recommended usage in various food systems, by K. P. Jones & H. L. Kickle (pp. 76-82); [Continued in following abstr.]   AL

14

Proceedings of spring 1977 meeting. Theme: Perspectives in food, packaging and equipment systems 1977. [Conference proceedings]
United States of America, Research & Development Associates for Military Food & Packaging Systems Inc.
Activities Report **29** (2) v + 131pp. (1977) [En]

[Continued from preceding abstr.] Enzyme technology used by the corn wet milling industry, by J. M. Newton (pp. 83-88); Principles of packaging irradiation, by V. Stannett (pp. 95-97); Effect of radiation on films, adhesives, and coatings, by J. K. Rieke (pp. 98-101); Effect of radiation sterilization on packaging materials, by I. W. Turiansky (pp. 102-103); Applications of radiation in packaging, by J. J. Killoran (pp. 104-107); Biodegradation - solution or problem?, by S. G. Gilbert (p. 108); Recycling, by R. F. Testin (pp. 109-111); and Disposability of packaging materials, by A. H. Warren (pp. 112-113).   AL

15

Food protection in jails and prisons.
Walker, B., Jr.; Gordon, T.
Journal of Food Protection **40** (9) 639-642 (1977) [5 ref. En] [Environmental Health Administration, Gov. of the District of Columbia, Washington, DC 20002, USA]

100 jails and prisons in the USA were visited, and the findings that relate to health aspects of the prison catering are discussed. Sources of food supplies were usually satisfactory, but 2 institutions carried out meat processing that was not subject to supervision by the appropriate authorities. Raw materials and cooked food were generally inadequately stored, and managed in such a way as to cause cross-contamination. Washing of dishes and utensils was often substandard. All institutions had substantial cockroach infestations. The replacement of inmates by professional caterers for planning, preparing and serving meals is seen as desirable.   DIH

16

HACCP models for quality control of entree production in foodservice systems. [Review]
Bobeng, B. J.; David, B. D.
Journal of Food Protection **40** (9) 632-638 (1977) [38 ref. En] [Dep. of Food Sci., Univ. of Wisconsin-Madison, Madison, Wisconsin 53706, USA]

The Hazard Analysis Critical Control Point (HACCP) concept is a preventive approach to quality control, emphasizing microbiological control and identifying process stages where loss of control could present a food safety risk. Applying this concept, which has been implemented in the frozen food processing industry, HACCP models were developed for quality control of entree production in conventional, cook/chill, and cook/freeze food service systems in 3 phases: identification of control points using flow diagrams, identification of critical control points, and establishment of monitors for control. Time-temp. was a critical control point throughout entree production in each of the models; parameters were established for time-temp. and continuous surveillance of time-temp. was the monitor for control. Equipment and personnel sanitation are critical control points which should be monitored using standards established by the food service system. Implementation of the HACCP system is recommended for food service operations. However, standards and monitors for control of critical control points must be established for each operation and based on their own system objectives, resources and constraints. AS

17

[Practice of factory hygiene, and experience of a specialized hygiene-service enterprise.] Praxis der Betriebshygiene mit Erfahrungen in einem speziellen Hygiene-Dienstleistungsunternehmen.
Senczek, D.
Ernährungs-Umschau **24** (5) 133-135 (1977) [12 ref. De] [D-4000 Düsseldorf 30, Parkstrasse 7, Federal Republic of Germany]

This review-type article deals with various practical aspects of factory hygiene, mainly from the viewpoint of duty and routine of specialized 2-3 person teams sent by hygiene-service enterprises to mass catering establishments, canteens and food factories. SKK

18

[Packaging of foods for communal feeding.]
Massini, R.
Imballaggio **28** (259) 274-279 (1977) [It] [Stazione Sperimentale per l'Ind. delle Conserve Alimentari, Parma, Italy]

In 1975 the number of meals served daily in communal feeding establishments in Italy totalled >12 million, mainly in hotels/restaurants etc. (29.0%), schools and universities (24.1%), hospitals, clinics etc. (19.1%) and community centres (19.1%). Various packaging aspects are discussed generally, including: hot and cold dishes, bulk delivery, sterilization, spirally wound cans, flexible containers, continuous heat treatment, dried foods, frozen foods, vacuum packs, Al and polyethylene pouches, and heat-sealable containers. The most popular types of container for the processes involved are listed. HBr

19

[Use of convenience foods in meals for juveniles in holiday homes.] Einsatz von Convenience-food bei Mahlzeiten für Jugendliche in Ferienheimen.
Burckardt, J.
Ernährungs-Umschau **24** (6) B27-B28; (7) B31-B32 (1977) [2 ref. De] [Grossverpflegung DGE, Feldbergstrasse 28, 6000 Frankfurt a. M., Federal Republic of Germany]

Guidelines are given on preparation and use in holiday homes of convenience foods, the different steps being illustrated by flow-sheets with particular reference to beef roulade, red cabbage and boiled potatoes. A further sheet presents calculations for meat dishes. SKK

20

[Supply of milk in schools.] Aspekte der Schulmilchversorgung.
Wietbrauk, H.
Molkerei-Zeitung Welt der Milch **31** (40) 1311-1312, 1314-1316 (1977) [8 ref. De] [Inst. für Betriebswirtschaft & Marktforschung der Bundesanstalt für Milchforschung, Kiel, Federal Republic of Germany]

This article reports the main findings from a research project concerning the improvement of milk sales and distribution in schools, with particular regard to selecting the optimum product range and product presentation. The present extent and structure of dairy product sales in schools in the Federal Republic of Germany was determined by questioning 100 liquid milk dairy enterprises, which on average supplied only 15% of the potential demand in local schools. Three systems for supplying dairy products in schools are considered optimal: (i) for kindergartens and schools with a cafeteria, the dispenser system; (ii) for schools with a low sales potential, sale of refrigerated products with a long storage life; (iii) for schools with high sales, daily delivery of fresh products which are purchased freely over the counter with coupons. The question of school milk subsidies is examined, with the conclusion that the present subsidy arrangements will not greatly reduce prices or increase school milk sales; it is suggested that the subsidy system should be modified so as to apply to all milk products suitable as school snacks, irrespective of their fat content (about 80% of milk beverage sales in German schools are skimmed cocoa milk, which is not subsidized at present). ADL

21

Satellite food service system: time and temperature and microbiological and sensory quality of precooked frozen hamburger patties.
Cremer, M. L.; Chipley, J. R.
Journal of Food Protection **40** (9) 603-607 (1977) [20 ref. En] [School of Home Economics, 1787 Neil Avenue, Columbus, Ohio 43210, USA]

Use of a precooked frozen entree, hamburger patties, in a satellite food service system was assessed as related to time and temp. conditions and microbiological and sensory quality to identify critical phases in utilizing a precooked frozen entree. Time for product storage at the service location was approx. 3 days and average time at room temp. during assembly was 2 h. Temp. conditions were generally variable with internal temp. after heating food for service ranging from 67° to 89° C. Except for some of the low internal temp., conditions were acceptable from a food safety standpoint. Mean scores for sensory quality characteristics evaluated ranged from 5.1 to 6.9 (9-point scale) and total plate counts indicated that microbial quality was good. Genera of pathogenic microorganisms were identified, including Clostridium and Staphylococcus; therefore, the potential exists for public health hazards if precooked food is subsequently mishandled in a system of this type. Critical problems may become apparent in the control of variability within the system, particularly at the point of heating food for service. AS

22

[Catering cooking appliances using gaseous fuels.]
France, Association Francaise de Normalisation (AFNOR)
French Standard NFD 32-725, 31pp. (1976) [Fr]

23

[The output of institutional catering programmes as a management problem.] Die Leistungen der Gemeinschaftsverpflegung als betriebswirtschaftliches Problem.
Bottler, J.
Ernährungs-Umschau 23 (9) 275-279 (1976) [4 ref. De, en] [Inst. für Wirtschaftslehre des Haushalts & Verbrauchsforschung, Justus Liebig-Univ., Giessen, Federal Republic of Germany]

24

[Bacteriological characteristics of frozen foods for communal feeding.]
Rozanova, L. I.; Sharoiko, E. M.
Trudy, Vsesoyuznyi Nauchno-issledovatel'skii Institut Konservnoi i Ovoshchesushil'noi Promyshlennosti No. 23, 7-11 (1975) [4 ref. Ru]

The wide range of these fast-frozen foods stored at low temp. comprises soups, main dishes, hors d'oeuvres, fruit, washed soup vegetables, soup base and different semi-finished products; these were studied for total bacterial count and for Escherichia group bacteria. Levels within recommended standards were found in Russian soups (shchi, borshch, rassolnik), boiled cabbage, vegetable ragout, boiled carrots etc., ham and potato salads and vegetable salads, soup enrichers and fruit desserts. The washed soup vegetables (parsley, celery, parsnip) exhibited higher counts than stipulated in the standards; blanching is therefore necessary, plus elaboration of standards covering the bacteriological condition of frozen foods. STI

25

[Proteolytic enzyme preparations in the fermentation and feedstuffs industries.] [Review]
Sawicka, R.
Przemysl Fermentacyjny i Rolny 21 (5) 2-4 (1977) [18 ref. Pl, ru, en] [Inst. Przemyslu Fermentacyjnego, Warsaw, Poland]

Aspects covered in this review include substitution of ⩽80% malt by barley, with proteolytic enzymes as adjunct, in the brewing industry; use of proteolytic enzyme preparations for defecation of wine; and use of alkaline proteases of Bacillus subtilis in conjunction with various washing agents for cleaning equipment, utensils, dishes, etc. in the food and catering industries. STI

26

Individual lipids and proximate analysis of various foods. I. French fried potatoes from ten chain restaurants.
Hubbard, W. D.; Prosser, A. R.; Sheppard, A. J.; Newkirk, D. R.; Osgood, T.; Tombropoulos, E.; Jones, S. T.
Journal of Agricultural and Food Chemistry 25 (6) 1280-1281 (1977) [3 ref. En] [Div. of Nutr., FDA, Washington, DC 20204, USA]

French fried potatoes were obtained every 3rd day from 10 chain restaurants for a total of 6 samplings from each restaurant. The samples were analysed for water, total fat, fatty acids, protein, ash, sterols, and cis,cis-methylene interrupted polyunsaturated triglycerides. The data show that variations exist in the day-to-day selection of cooking oils used within a single restaurant. Also, the wide variations in data from one restaurant to another indicate that different oils were being selected. Values for total fat ranged from 14.0 to 28.4 g/100 g product, and cholesterol values varied from near zero to 19.0 mg/100 g of product. Several restaurants appeared to use mixtures of animal and vegetable fats. One establishment used only a vegetable oil and others used only animal fat. AS

27

Try fish as an alternative protein source.
Regenstein, J. M.; Regenstein, C. E.
Food Product Development 10 (9) 56 (1976) [En] [Dep. of Poultry Sci., Cornell Univ., Ithaca, New York, USA]

The possibility of using deboned fish to develop new fish products instead of hiding it in products which are predominantly something else, is discussed. Possible marketing applications are: adding fish to a serving of chowder to provide the necessary protein for Class A school lunches; use of fish by dieters to keep fat and calorie intake down; and possible market for 1 lb blocks for use in the home. VJG

28

Cook/chill foodservice systems: temperature histories of a cooked ground beef product during the chilling process.
Rollin, J. L.; Matthews, M. E.
Journal of Food Protection 40 (11) 782-784 (1977) [4 ref. En] [Dep. of Food Sci., Univ. of Wisconsin, Madison, Wisconsin 53706, USA]

Temp. were recorded in cooked food masses being chilled, either (i) under actual operating conditions in a school cook/chill food service system, or (ii) under laboratory conditions. Hot food in (i) was portioned into 10 × 18 × 4½ in pans (to a depth of 3 in), which were loaded into a walk-in refrigerator. Temp. were recorded for 9 entrees by a thermocouple in the geometric centre of the mass. Times required to reach a temp. of 7-9°C were ⩾7.0

h. (ii) tests with 1 entree (barbeque ground beef) in a 12 × 20 × 4 in pan (to a depth of 2 in) showed that times taken to achieve temp. ≤7°C at 5 depths in the mass were >4 h in a walk-in refrigerator. The product load in (ii) was 1 pan in the refrigerator; under normal operating conditions a greatly increased number of pans to be chilled would increase refrigerator temp. and chilling times. Equipment for rapid chilling of food to ≤7°C should be evaluated under actual operating conditions before being used in a cook/chill food service system. DIH

29

Food compatibilities and menu planning.
Moskowitz, H. R.; Klarman, L.
Canadian Institute of Food Science and Technology Journal **10** (4) 257-264 (1977) [10 ref. En] [MPi Sensory Testing, Inc., 770 Lexington Avenue, New York, New York 10021, USA]

This paper approaches the analysis of food compatibilities and menu planning by a 3-step procedure: (i) multidimensional scaling (which produces a 'geometrical map' of foods, so that compatible foods are located close together); (ii) regression analysis (which indicates the degree to which pairwise compatibilities of 2 items predict compatibilities of triples of items); and (iii) cluster analysis (which produces combinations of foods, located close together in the space, which are thus compatible with each other). The 3-step approach produces quantitative representations of compatibilities, and a novel method for producing menus by computer. AS

30

[Quality problems in communal feeding.]
Qualitätsprobleme der Gemeinschaftsverpflegung.
Paulus, K.
Industrielle Obst- und Gemüseverwertung **62** (16) 435-440 (1977) [10 ref. De] [Bundesforschungsanstalt für Ernährung, Karlsruhe, Federal Republic of Germany]

The problems of ensuring satisfactory sensory, nutritional and sanitary quality in large scale food preparation are discussed with separate consideration of industrial production, central and conventional kitchens. Guidelines on time limits for keeping special dishes at 70-80°C (in some cases 20°C) are tabulated. Possible improvements are briefly discussed. RM

31

Potential for change in the food industry. [Lecture]
Ward, A. G.
Proceedings of the Nutrition Society **36** (3) 325-331 (1977) [6 ref. En] [Procter Dep. of Food & Leather Sci., Univ. of Leeds, Leeds LS2 9JT, UK]

Some likely changes in the provision of food in the UK are discussed, including increased use of prepared foods in the catering industry, the development of alternatives to high-priced imports such as coffee, cocoa beans and tea, and the use of fish spp. such as blue whiting. The potential for development of new processes and products (especially those of plant origin) is discussed. [See FSTA (1978) **10** 6G328.] DIH

32

[Technology of roasting and preparation of roast beef as a component of table-ready meals.]
Bucar, F.
Tehnologija Mesa **18** (2) 42-44 (1977) [14 ref. Sh, en] [Biol. Fak. Ljubljana, Yugoslavia]

The importance of roast beef in gastronomy and in industrialized catering is discussed. Cuts of beef suitable for roasting are listed, and the effects of ageing and degree of doneness on the organoleptic properties are considered. Economic aspects of roasting (wt. loss, vol. loss, shape changes) are also discussed. 2 roasting methods are described, one based on preliminary searing at 275°C for 20 min, then roasting at 150°C as necessary, the other based on roasting at a constant temp. of 150°C. Modern roasting equipment is also discussed. Types of industrially-prepared meals which may incorporate roast beef are considered. STI

33

[Gas-heated catering equipment. Basic regulations.]
Czechoslovakia, Urad pro Normalizaci a Mereni
Czechoslovak Standard CSN 06 1901, 42pp. (1976) [Cs]

34

Subsidy systems in aid of school milk in Belgium and Denmark.
Röling, F.; Krusebaek-Jensen, K.
Milk Industry **80** (2) 26-28 (1978) [En]

Since 1951 the Belgian government has provided a subsidy on milk supplied to educational establishments, but because of the strict qualifying regulations and low amount of the subsidy, only 2147 of 5140 infant and primary schools that provided milk regularly in 1976 had applied for the subsidy. In Denmark, legislation was passed in 1962 for the government to provide one third of the cost of a free milk supply to all school pupils; when the act was repealed in 1970, most municipalities stopped subsidizing school milk. Efforts of the Danish dairy organization to introduce sales of milk to pupils have resulted in about 67% now having access to milk at school; 33% of these get it free. Improvements are expected in both countries when the EEC's school milk subsidy programme is introduced. CDP

35

Quality of beef stew in a hospital chill food-service system.
Nicholanco, S.; Matthews, M. E.
Journal of the American Dietetic Association **72**

(1) 31-37 (1978) [17 ref. En] [Dep. of Food Sci., Coll. of Agric. & Life Sci., Univ. of Wisconsin, Madison, Wisconsin, USA]

Quality of beef stew was investigated under actual operational conditions in a hospital chill foodservice system. Sensory, microbial, and nutritional qualities of stew were evaluated at major stages of handling: pre-preparation, production, chilled storage and assembly-distribution. Quality of stew was evaluated at 2 taste sessions on each of 3 days for: appearance flavour, gravy texture, gravy consistency, meat texture, vegetable texture, and overall acceptance. Overall quality was significantly affected ($P<0.05$) by day of preparation, but not between taste sessions on the same day. No one attribute significantly affected overall acceptance at all 6 taste sessions. Microbial quality was determined in 8 sampling periods during production, chilled storage and assembly-distribution. Coliform counts at each sampling period were minimal and showed no growth pattern. Aerobic bacterial numbers were highest when stew temp. was 45-140° F. Thiamin content was reduced from 0.11 mg/100 g in raw materials to 0.03 mg/100 g in stew after cooking and chilled storage for 24 h. VJG

36

[State of the organization of communal feeding in students' canteens.]

Zalewska, A.; Nowicka, L.; Rogalska, M.

Roczniki Panstwowego Zakladu Higieny 28 (6) 561-569 (1977) [18 ref. Pl, ru, en] [Zaklad Higieny Zywienia Zbiorowego Inst. Zywnosci i Zywienia, Warsaw, Poland]

37

[Mechanical metering of food pieces, and improved heat transfer in canning of prepared meals, achieved by appropriate use of modern edible starches.] Mechanische Dosierung stückiger Füllgüter und verbesserte Wärmedurchgänge bei Fertiggericht-Konserven durch gezielten Einsatz moderner Nahrungsmittelstärken.

Marschke, H.

Zeitschrift für Lebensmittel-Technologie und -Verfahrenstechnik 29 (2) 47-48 (1978) [De]

The use of modified starches in the manufacture of sterilized prepared meals is described with reference to: effects on rheological properties of the product during processing; physicochemical changes during storage of the product; effects of intensive heat treatment on the characteristics of starches; advantages of modified starches with delayed thickening characteristics (permitting rapid heat transfer during the initial stages of heating); and use of modified starches as an aid in accurate mechanical metering of mixes containing meat pieces, etc. AJDW

38

[Technical and economic conditions for optimum school milk provision.] Technische und wirtschaftliche Voraussetzungen für eine optimale Schulmilchverpflegung.

Wietbrauk, H.

Molkerei-Zeitung Welt der Milch 31 (50/51) 1708-1711 (1977) [7 ref. De] [Inst. für Betriebswirtschaft & Marktforschung der Bundesanstalt für Milchforschung, Kiel, Federal Republic of Germany]

In 1974, school milk provision in Nordrhein-Westfalen (NW) and in the remainder of the Federal Republic of Germany was, resp.: % of schools and kindergartens supplied, 84 and 46; and % of children taking milk in them, 36 and 25. The better performance in NW is attributed partly to the subsidy available only in NW among the German Federal Länder, but particularly to the energetic action of the NW Dairying Association. Advantages and disadvantages of various school milk distribution systems are discussed. The school milk subsidy measures proposed by the EEC are also considered and various modifications and improvements are suggested. The overall conclusion is that a comprehensive marketing strategy is required for successful distribution of school milk. The guidelines proposed in this article are to be put to a practical test organized in collaboration with 11 dairies. [See also FSTA (1978) 10 4P493.] SKK

39

Retail brands of frozen fried chicken one-third price of take-out units.

Martin, S.

Quick Frozen Foods 39 (8) 16-18, 20, 22, 24-25 (1977) [En]

Investigations were carried out using 5 brands of frozen fried chicken and 2 commercially prepared chicken products (from fast food establishments). Frozen products were evaluated for: number of pieces; flavour; texture; accuracy of directions; yield; ingredient proportions; cost/oz; cost/serving; and packaging. It was concluded that: retail frozen chicken cost 8 cents/oz compared to 23 cents/oz for take-out; frozen breading was heavier; it took as long to buy take-out as to heat frozen; and only one frozen brand was rated below 'good' in flavour. Most retail products were equal or superior to fast food establishments in flavour and quality. VJG

40

Education and training to prevent problems in food protection: experience in the nation's capital.

Walker, B., Jr.

Journal of Food Protection 41 (2) 131-134 (1978) [3 ref. En] [Environmental Health Administration, Gov. of the District of Columbia, Washington, DC 20002, USA]

Public health scientists are increasingly recognizing that the foundation of food sanitation practice in food service establishments, is, to a large extent, based on the knowledge, attitude and behaviour of the food service worker. Accordingly, regulatory agencies throughout the USA are renewing their interests in training and certification of food service workers. This article outlines the fundamental strategy of the education and training programme in the nation's capital. AS

41

Aviation catering. Report on a working group, Torremolinos 30 Nov.-3 Dec. 1976. [Booklet]
World Health Organization, Regional Office for Europe
26pp. (1977) [En] Copenhagen, Denmark

This report by a WHO working group discusses problems inherent in catering for a large travelling public as a result of the special conditions involved in air flight, e.g. limited space and cold storage facilities, unplanned delays in flight, differences in food hygiene regulations at the point of intake of the food. Canned food and deep-frozen ready-to-serve dishes are considered safe when used correctly; so-called 'cold meals' are the major health hazard. 32 specific recommendations by the working group are given, broken down into several subject areas: general principles of food hygiene (e.g. food to be handled by mechanical means where feasible), composition of menus (high-risk foods such as shellfish, raw meat to be given special attention), temp. control (e.g. frozen food to be kept at ≤-18° C), microbiological control (e.g. processed foods to be controlled by indicator organisms generally), water (e.g. water loading and sewage removal to be kept rigidly separate), waste disposal (e.g. food waste to be destroyed under qualified supervision), disinfection (to be routine), medical examinations (e.g. all food handlers to be medically screened on appointment), education and training (e.g. to be at frequent intervals) and contingency planning (e.g. all air crew to recognize food-bourne disease symptoms). HBr

42

[Equipment and technology solutions of commercial manufacture of prepared dishes.]
Holub, F.
Prumysl Potravin 28 (10) 585-589 (1977) [Sk] [Vyskumny Ustav LIKO, Bratislava, Czechoslovakia]

The author's Institute has designed the following commercial lines for manufacture of prepared dishes: an experimental line for annual production of 1500 t of frozen prepared dishes in 1 shift at the Nitra refrigerated storage plant, to be completed in 1978; an experimental line in Trebisov for annual production of 600 t canned prepared dishes in 5-kg cans; a REMA line for annual production of 600 t sterilized prepared dishes in Nove Zamki, in operation from 1977; and a line for annual production of 1400 t frozen conc. soups at the Bratislava refrigerated storage plant. In this connection, the following prepared dishes were developed: 25 kinds of sterilized dishes, 25 kinds of frozen, 10 kinds of ground-meat sterilized or frozen, and 15 kinds of conc. soups. The following manufacturing steps are outlined: meat portioning; ham pickling and allied procedures; forming of frozen raw meat; goulash-meat portioning; preparation of stews, meat loaves, croquettes and similar dishes; preparation of dishes from reconstituted meat; heat-treatment operations; filling, metering and packaging; 5-portion packaging; single-portion packaging; sterilization; vegetables and side-dishes; and auxiliary equipment. SKK

43

New kinds of quick-frozen ready-to-serve school lunches. [Lecture]
Ustinova, A. V.; Yakovleva, L. M.; Kharlamova, N. M.; Pal'mina, L. L.; Shut', Yu. E.
Proceedings of the European Meeting of Meat Research Workers No. 23, N20:1-N20:21 (1977) [14 ref. En, Ru] [Vses. Nauchno-issled. Inst. Myasnoi Promyshlennosti, Moscow, USSR]

Formulations and production processes for meat-based foods for schoolchildren were developed according to the requirements of the Institute of Nutrition of the Academy of Medical Sciences of the USSR. Ready-to-serve dishes were developed with respect to the age of the children and in accordance with the need for a balanced nutrition. Beef, pork and offals (liver, and heart) represent the basic raw materials; addition of milk and blood proteins allows manufacture of cheap and biologically valuable dishes containing balanced quantities of amino acids and minerals. The meat lunches were clinically tested at a school in Moscow with favourable results, and are recommended for use in lunch programmes for school children. [See FSTA (1978) 10 8S1048.] STI

44

Symposium on 'Nutrition in hospitals'. [Conference proceedings]
United Kingdom, Nutrition Society
Proceedings of the Nutrition Society 37 (1) 65-103 (1978) [many ref. En]

Papers are published that were presented at the 310th Scientific Meeting of the Nutrition Society, held in Glasgow, 5th Nov. 1977. The papers include Quality of diet received by the patient, by E. Evans (pp. 71-77, 12 ref.). DIH

45

Time-temperature observations of food and equipment in airline catering operations.
Bryan, F. L.; Seabolt, K. A.; Peterson, R. W.; Roberts, L. M.
Journal of Food Protection 41 (2) 80-92 (1978) [18 ref. En] [Cent. for Disease Control, FDA, Atlanta, Georgia, USA]

Practices used in food preparation for food to be served in aircraft were simulated, and temp. of the foods were recorded continuously. Data are tabulated for egg, poultry and beef dishes. Foods were prepared in airline kitchens, then transport to the aircraft in refrigerated or heated containers (as appropriate) was simulated, and subsequent aircraft storage and reheating (where necessary) was simulated using equipment of the same type as that used in aircraft. Many foods spent long periods at temp. between 45° and 140°F. Refrigeration with solid CO_2 alone was usually of insufficient capacity to hold food at ≤ 45°F; a solid CO_2-activated freon refrigeration system could maintain temp. of <45°F. Some hot-storage transporters did not maintain temp. of >140°F. It was considered that the following foods showed potential for growth of foodborne disease bacteria: scrambled eggs stored in pans at a depth of 5 in and 1-lb 13-oz cuts of roast beef, both stored in roll-in type refrigerators; and cooked chicken thighs stored in a reach-in refrigerator. DIH

46

Education to prevent foodborne illness.
Woodburn, M. J.
Food Technology 32 (2) 56, 58, 70 (1978) [6 ref. En] [Dep. of Foods & Nutr., Oregon State Univ., Corvallis, Oregon 97331, USA]

This paper discusses ways of educating food service personnel and consumers to prevent foodborne illnesses and identifies 3 specific goals of such education, viz: to overcome the fatalistic acceptance of foodborne illness by the public and physicians, to incorporate safety considerations into the appraisal of food handling methods, and to help consumers distinguish between practices related to food quality and those related to food safety. Mention is made of the lack of sanitation education in food service courses at colleges and universities, the contribution of the Extension Service of the USDA to food safety education, and the particular need for education in the field of home canning of foods. JA

47

[Developments in school milk consumption in Denmark.] Die Entwicklung des Verbrauches von Schulmilch in Dänemark.
Krusebaek-Jensen, K.
Deutsche Milchwirtschaft 29 (5) 146 (1978) [De]

The Danish Government decided in 1962 to defray one-third of the cost of free milk distribution to all schoolchildren. After this guarantee was revoked in 1970, Danish dairy associations undertook to establish milk sale facilities in schools not receiving municipal help. As a result, sale of milk was introduced in 700 schools; 300 schools continued to receive it free. In spring 1977, two-thirds of all Danish schoolchildren received school milk daily, one-third of them free of cost. Free milk was available as whole milk, low-fat milk, skim-milk and buttermilk. In schools where milk was on sale, cocoa proved as popular as whole and low-fat milk; yoghurt constituted 10% of total consumption, but skim-milk and buttermilk accounted for only 4% each. At present almost all participating schools have refrigerators, 20% of them supplied free of cost. Dissemination of milk publicity in schools is described. SKK

48

[Hygienic situation in the public food manufacture facilities of Croatia.]
Erceg, J.; Madjaric, D.
Hrana i Ishrana 18 (9/10) 407-410 (1977) [14 ref. Sh, en] [Skola Narodnog Zdravja 'Andrija Stampar', Med. Fak., Zagreb, Yugoslavia]

Studies on hygienic standards in food industry premises over the period 1963-1975 are discussed. The results show that hygiene deficiences were observed in 25% of 57 339 surveys in food processing plants, 20% of 155 116 surveys in food shops, 24.3% of 145 508 surveys in catering facilities, and 19.7% of 20 981 surveys in other food trade facilities. This situation is discussed in detail, and facilities requiring further investigation and improvement of hygienic conditions are singled out. IN

49

Food safety hazards associated with school food service delivery systems.
Avens, J. S.; Poduska, P. J.; Schmidt, F. P.; Jansen, G. R.; Harper, J. M.
Journal of Food Science 43 (2) 453-456 (1978) [9 ref. En] [Dep. of Animal Sci., Colorado State Univ., Fort Collins, Colorado 80523, USA]

A study was conducted to compare 4 school food preparation and delivery systems regarding microbiological content of foods as indicative of potential food safety hazards. Food samples were collected along the preparation and delivery line of each of 10 menu items from 16 schools representing the 4 food preparation and delivery systems. Schools and systems were compared on the basis of statistically significant differences in aerobic plate count and relative frequency of improper food temp. and objectionably high indicator bacteria counts. Food preparation and handling abuse was a characteristic of individual schools and was not uniquely characteristic of any particular food preparation and delivery system or systems. IFT

50

[Development of the cold chain.] Zur Entwicklung der Kühlkette.
Jungnickel, H.
Lebensmittel-Industrie 25 (1) 9-14 (1978) [25 ref. De, en, fr, ru] [Sektion Energieumwandlung, Bereich Kälte-Tech., Dresden, German Democratic Republic]

The current status and trends in the development of the cold chain are discussed, with reference to: refrigeration technology; energy economy; biological, biochemical and physical aspects of the conflict between unification of refrigeration technology and the specific requirements of individual products; problems of refrigeration, freezing and cold and frozen storage; development of refrigerated vehicles; application of refrigeration technology in catering; and future prospects for refrigeration technology and the cold chain. IN

51

Proceedings of the fall 1977 meeting. Theme: Perspectives in food, packaging and equipment systems 1977. [Conference proceedings]
United States of America, Research & Development Associates for Military Food & Packaging Systems Inc.
Activities Report **30** (1) v + 123pp. (1978) [En]

Proceedings of the meeting, held on 4-6 Oct. 1977, contain 6 papers dealing with retort pouches, i.e. Outlook on pouch materials, by P. Murphy (pp. 1-3); The retort pouch: an innovation in packaging, by B. Merrifield (pp. 4-8); Outlook on retort pouch processing and marketing, by R. Asp (pp. 9-15); The food package of the future comes of age, by R. M. Morrow (pp. 16-21); Outlook on retort pouch production equipment, by R. Porter (pp. 22-25); and Military retort pouch needs, by E. A. Nebesky (pp. 26-27). Further papers were presented at 4 workshop sessions. Session I - Packaging - contains the following papers: Retort pouch update, by G. L. Schulz (pp. 28-30); The current USDA position of meat and poultry products packaged in flexible retortable pouches, by B. H. Youn (pp. 31-32); The resistance to insect penetration of military packaging materials, by L. W. Smith, Jr. (pp. 33-35); Insect resistant package design, by H. A. Highland (p. 36); What's new in testing and evaluation of materials and packages, by H. J. Raphael (pp. 40-43); The changing role of testing in packaging, by J. Wambaugh (pp. 44-45). Session II contains 7 papers under the title Recommended US dietary goals and the armed forces (pp. 46-68), and 1 paper entitled National ferment in dietary goals: challenge and opportunity for the Defence Department's food programme, by H. L. Jacobs (pp. 69-85, 20 ref.). A summary of session III - Foods of the future, is given by A. R. Rahman & B. Lister (pp. 88-90). Papers in session IV - Energy management & process control of food service equipment, include Introductory remarks and review of NARADCOM food systems equipment division studies, by R. V. Decareau (pp. 91-96), which deals with microwave roasting of beef; Energy management systems, by P. Grant & C. Nelson (pp. 105-109); 50 years of steam cooking, by J. H. Holman (pp. 110-116); and summary, by R. V. Decareau & D. P. Smith (pp. 120-121). A further 3 papers are abstracted separately and are in the FSTA author index under United States of America, Research & Development Associates for Military Food & Packaging Systems Inc. [Packaging & Equipment Symposium]. AL

52

Retention of ascorbic acid in hospital meals.
Warrendorf, E. M.; Kitson, J. A.
Canadian Institute of Food Science and Technology Journal **11** (2) 55-58 (1978) [15 ref. En, fr]
[Agric. Canada Res. Sta., Summerland, British Columbia, Canada]

The retention of ascorbic acid in hospital food prepared by 2 different methods was compared. There was no significant difference in ascorbic acid retention between vegetable samples which had been cooked, held at 3.3° C overnight and reheated in a convection oven for 20 min and vegetables which had been cooked and held at 96° C on a steam table for 2 h. Elimination of the holding at 3.3° C in the case of convection reheated samples, greatly increased the retention of ascorbic acid compared to steam table held samples. On the other hand, baked potato and liver samples which were frozen for 6 wk before thawing and convection oven reheating retained slightly less ascorbic acid than samples which had been cooked and held on a steam table for 2 h. AS

53

[Manufacture of preserved foods in large containers and frozen semi-manufactured foods for public canteens.]
Namestnikov, A. F.
Konservnaya i Ovoshchesushil'naya Promyshlennost' No. 11, 42-44 (1977) [Ru]

Several plants are adapted to manufacture preserved foods in 3 l. glass or tinned containers. The freezing plants make foods in blocks and semi-processed foods for public canteens; these weigh 3-10 kg. Further extension of frozen semi-processed foods is hindered by available freezing plant capacity, refrigerated transportation capacity, and storage space. In 1976 formulae for 23 new canned foods in 3 l. containers were worked out. Normal losses at public canteens, and expansion of food concentrate manufacture are discussed. More detailed technico-economic data are not presented. STI

54

Quantity cooking. [Book]
Mario, T.
xxxvii + 450pp. ISBN 0-87055-235-8 (1978) [16 ref. En] Westport, Connecticut, USA: AVI Publishing Company, Inc. Price - Soft Cover $15.00 (US) $16.00 (Foreign); Cloth $20.00 (US) $21.00 (Foreign)

This book, which views the subject from occupational rather than cookbook divisions, includes job summaries and descriptions of the basic skills and working conditions for the specialized assignments in the kitchen. It is designed for students of the culinary arts preparing to enter the food service industry. It comprehensively describes the actual assignments of each specialist cook, explains the important work habits that must be acquired, and shows how each cook's duties are tied in with other cooks in the kitchen organization. At the beginning of each topic, there is a job summary, a list of manual procedures, equipment and utensils, as well as working conditions and hazards. A section of important guides for mastering a particular technique at a station precedes each category of recipes. Chapters included are: Introduction (pp. 1-11); Using the French knife (pp. 12-30); Stocks (pp. 31-45); Soup cook (pp. 46-93); Fry cook (pp. 94-130); Broiler cook (pp. 131-157); Roast cook (pp. 158-196); Sauce cook (pp. 197-272); Cold meat man (pp. 273-311); Vegetable cook (pp. 312-338); Breakfast cook (pp. 339-362); Sandwich maker (pp. 363-387); Pantry worker, salad maker, coffee maker (pp. 388-417); and Dessert cook (pp. 418-440). VJG

55

[Topical aspects of school milk problems.] Das Schulmilchproblem in aktuellen Stichworten.
Jiresch, -.; Schwendinger, -.
Österreichische Milchwirtschaft 33 (10) 180-181 (1978) [De]

According to preliminary data, 16 276 t school milk were distributed in Austria in 1977, and in 1976 school milk accounted for 3.2% of the total sales of liquid milk products. Measures which could be taken for maintaining or increasing school milk consumption are discussed. FL

56

[The most important results of the School Milk Congress held during 3-4 April 1978, in Giessen.] Die wichtigsten Ergebnisse des Schulmilch-Kongresses am 3. und 4. April 1978 in Giessen. [Conference proceedings]
Anon.
Deutsche Milchwirtschaft 29 (13) 374-380 (1978) [De]

Brief accounts of papers presented at the School Milk Congress held in Giessen (Federal Republic of Germany) are given, including the following: Technical and economic conditions for optimal school milk provision, by H. Wietbrauk (p. 374); Experience with a school milk experiment in Giessen, by W. Warmbier (p. 374); Marketing milk products in schools - more than a sales strategy!, by H. B. Müller (pp. 374-375); Experience with school milk distribution through coin-operated vending machines, by H. Hamberger (p. 375); Experience with distribution of school milk, by H.-G. Bublitz (pp. 375-376); A system for simplifying school milk distribution, by W. Vagt (p. 376); Experience with fruit-flavoured milk drinks in the school, by W. Marquardt (p. 376); Experience with new school milk products, by H. Dorfinger (p. 376); Experience with milk dispensers in creches, by K. Lich (pp. 376-377); Requirements for a milk dispenser, by H. Bröckers (p. 377); Aspects of the school milk market in Great Britain, France and Denmark, by J. Bücker (pp. 377-378); Aspects of the school milk market in the Benelux countries, by F. J. Röling (p. 378); School milk market in Norway, by T. Slikker (p. 378); Nutritional and physiological aspects of school milk, by E. Renner (p. 378); Milk products as nutritionally and physiologically valuable top products in break meals at schools, by W. Wirths (pp. 378-379); Critical evaluation of food range offered at school breaks, by W. Feldheim (pp. 379-380); Flavoured milks and ready-to-eat puddings in school meals, by G. Andersen (p. 380); Bacteriological properties of milk and cocoa in schools and creches with particular regard to their sales through dispensers, by T. Thierer (p. 380); and Measures taken by the EEC, Federal Government and Länder regarding school milk provision, by U. Kosmack (p. 380). FL

57

[Liquid seasonings - new seasonings for general use.] Würzflüssigkeiten - neue Würzmittel für die Bevölkerung.
Kund, P.; Pawlowski, U.
Lebensmittel-Industrie 24 (12) 540-543 (1977) [De, en, ru] [VEB Aromatic Leipzig, German Democratic Republic]

The potential for production of liquid seasonings for domestic and catering use is discussed. Products based on conventional seasonings (with a meat-like aroma), combined with natural or synthetic dill, pepper, paprika, mushroom, celery, nutmeg, curry, onion, caraway seed, herb, madeira and lemon flavours. Aspects considered include aroma/piquancy ratio, packaging, storage, transport, and potential reductions in imports of liquid seasonings. IN

58

[Catering equipment. Openings for insertion of containers.] Einrichtungen für die Gastronomie. Ausschnitte für Einsätze.
Germany, Federal Republic of, Deutsches Institut für Normung
German Federal Republic Standard DIN 66 075 Teil 7, 1p. (1977) [De]

59

[Catering equipment. Receptable for use for washing of dishes [especially glasses]. Dimensions.] Einrichtungen für die Gastronomie. Geschirrkorb. Masse.
Germany, Federal Republic of, Deutsches Institut für Normung
German Federal Republic Standard DIN 66 075 Teil 8, 2pp. (1977) [De]

60

[The microbiological quality of foods in Chinese restaurants.]
Peters, N. A. J.; Mol, H.; Vincentie, H. M.
Voeding 39 (6) 174-182 (1978) [23 ref. Nl, en] [Landbouwhogeschool, Wageningen, Netherlands]

352 samples of food from 26 Chinese restaurants were studied. Samples evaluated included 70 samples of rice, 49 samples of 'bami', 49 samples of egg roll and 148 samples of soups or bain-marie sauces. Tables of data are given showing anaerobic

and aerobic counts, and counts of enterococci, Enterobacteriaceae, Staphylococcus aureus and Bacillus cereus. Most of the samples failing to comply with Netherlands standards were intermediate stages in preparation of foods; 74% of 77 of these samples failed to comply with the standards. Only 8% of 275 samples of ready-to serve products failed to comply with the standards. Counts of pathogenic bacteria were relatively low; counts of bacteria indicative of poor kitchen hygiene were generally high. Unsuitable food storage temp. was a major factor responsible for the poor hygienic quality of the foods studied; 56% of samples stored under poor temp. conditions failed to comply with Netherlands standards, vs. 14% for samples stored under acceptable conditions. Of the 26 restaurants studied, hygiene standards were very good in 15%, good in 27%, adequate in 42%, poor in 8% and very poor in 8%. AJDW

61

Food service performance rating: a management tool.

Marsh, B. T.; Neill, J. J.

Journal of Environmental Health 40 (2) 89-92 (1977) [En] [Environmental Health Services, Cleveland Dep. of Public Health, Ohio, USA]

A rationale for evaluating the food inspection programmes in the city of Cleveland was developed. The formalized inspection/evaluation procedure was aimed at upgrading the food service effort within the environmental health district. Data from food inspection sheets were computerized to facilitate programme management and direction. On the basis of previous experience, it was decided that the computer system would have the following characteristics: a precoded inspection form to resemble as far as possible the current form; inspection forms would be checked for completeness and key punched monthly; the program could be prepared for submission to the computer by a person with no knowledge of computing; and the computer output would be 'tailor made' to suit the needs of the supervisor. This computer program would help ensure at least min. inspection in compliance with state and local laws. SP

62

[Use of iodine solution for determining the quality of the washing of crockery.]

Fel'dman, Yu. M.; Rychkina, E. Z.; Kuz'menko, V. D.; Leibman, E. T.

Gigiena i Sanitariya No. 4, 99 (1978) [4 ref. Ru] [Zhitomirskaya Gorodskaya Sanepidstantsiya, Zhitomir, USSR]

As part of the hygienic control of public feeding institutions, a simple method for determining the effectiveness of the washing of the crockery was developed. The test surface is wiped with a swab wetted with 3% alcoholic iodine solution (3 g I/100 ml 96° alcohol). Contamination of protein or fatty origin gives a brown colouring; starchy products (potatoes, flour) give a blue colour; while a clean surface gives a barely noticeable yellow colour. HBr

63

[The viewpoint of the official inspection service. Hygiene evaluation in food-preparation areas of catering establishments.] Aus der Sicht der Überwachungsbehörde. Hygienekontrollen in Grossküchen.

Anon.

GV-Praxis mit Tiefkühlpraxis 17 (9) 34, 36 (1977) [De]

The role of the official hygienic inspection services in checking that adequate sanitary standards are maintained in catering establishments is discussed, with special reference to: responsibilities of food-preparation and supervisory personnel; establishment of a regular hygiene plan; regular collection of food samples, for subsequent examination if necessary; control of pests; the importance of subdivision of food processing into 'clean' and 'unclean' areas; and a list of laws and guidelines covering food hygiene in the Federal Republic of Germany. AJDW

64

The need for standards in foodservice sanitation education.

Snyder, O. P., Jr.

Journal of Food Protection 41 (4) 295-301 (1978) [En] [Dep. of Food Sci. & Nutr., Univ. of Minnesota, St. Paul, Minnesota 55108, USA]

At present there is only one guideline for determining what information should be taught in food service sanitation courses. This basic document is the Food Service Sanitation Manual, including a model food service sanitation ordinance, 1976 revision, by the US Department of Health, Education and Welfare, Public Health Service, and FDA. However, this manual is not written in terms of educational outcome and is not truly based on sound educational principles. This paper approaches the problem of prevention of foodborne illness from the educator's point of view. It discusses the instructional problem in sanitation, why people must learn, who the students are, the values and benefits of this educational programme, and what should be taught if the educational outcomes are to be attained. AS

65

Concerns, experiences, attitudes and practices of executives of chain foodservice firms regarding quality control procedures.

Herrmann, E. C., Jr.; Herrmann, J. A.

Journal of Food Protection 41 (4) 291-294 (1978) [6 ref. En] [Dep. of Basic Sci., Univ. of Illinois, Peoria School of Med., Peoria, Illinois 61605, USA]

Top management of 44 chain food service firms with a combined total of 36 875 units answered a questionnaire about quality control procedures. Most indicated a concern for quality control laboratory tests but 22 representing firms with >350 units showed greatest concern. Pressures for increased quality control procedures came primarily from internal staff and then government agencies. It was felt that use of sanitation procedures would aid in dealing with customers and government agencies equally. Suppliers' products were generally considered reliable. There was widespread use of commercial laboratories, but 4× more of the larger firms than smaller firms had company-operated laboratories. Most felt laboratory tests were helpful. Advertising of quality control procedures was felt to be beneficial to the firm's public image and to employee pride. Top management considered sanitation instruction of employees and microbiological testing to be the most useful quality control procedures for the food service industry. AS

66

[Hygiene and safety of food from public feeding.]
Goussault, B.; Guerin, M. S.; Luquet, F. M.
Alimentation et la Vie 65 (4) 313-327 (1977) [4 ref. Fr]

Bacteriological examination of 5000 samples taken during 1976 in 600 kitchens preparing meals for public consumption showed that contamination was found mainly in hors d'oeuvres and desserts, the main organism being Escherichia coli. Pathogens were found very rarely. Clostridium perfringens, where found, was present at 1-10/g, 95% of Staphylococci incidences were at levels <100/g. RM

67

[Unsuitable storage of foods in catering establishments as a factor responsible for food poisoning.]
Erceg, J.; Madaric, D.
Hrana i Ishrana 18 (5/6) 261-264 (1977) [6 ref. Sh, en] [Republ. Sekret. Narodno Zdravlje i Socijalnu Zastitu SR Hrvatske, Zagreb, Yugoslavia]

A survey conducted in 150 canteens, restaurants, etc. in Croatia in 1978 showed considerable defects in facilities for storage and preparation of various foods. A table of results is given. A major deficiency was storage of unsuitable products together; this applied especially to meat and meat products. It is suggested that the results of this survey may help sanitary inspection authorities to prevent outbreaks of food poisoning likely to result from the existing situation. IN

68

[The situation in the school milk market in Norway.] Der Schulmilchmarkt in Norwegen - eine Situationsdarstellung.
Slikker, T.
Molkerei-Zeitung Welt der Milch 32 (28) 909-910 (1978) [De]

Information is given briefly on school milk in Norway, covering supplies, distribution and costs. Of some 4200 schools in the country, 53% (2200 schools) with about 70% of all schoolchildren are participating in the school milk programme. The milk is packaged in 0.25-l. plastics containers which are kept in refrigerators of 600 or 900 l. capacities, according to the size of the school, provided free of charge. Empty packages are placed by the children in a container for return to the milk suppliers. The milk is fully or partially subsidized, or the parents bear the full costs; in Oslo the milk is entirely free. In 1976, a total of 40 million units of school milk were distributed in Norway. FL

69

Packaging: the end-user's perspective.
Lindley, J. F.
Food Technology in Australia 30 (4) 132-134 (1978) [En] [Nationwide Food Services Pty Ltd., Sydney, NSW, Australia]

Consideration is given to the packaging problems of caterers. These relate to product identification, suitability of packaging material for storage, method of sealing bags, carton sizes, and non-metricated packs. Future trends in catering practices, centralized production of a selected range of meals using cook freeze systems, and advantages of retortable pouches are discussed. VJG

70

Expansion in the air for Alveston Kitchens.
Averill, G.
Frozen Foods 30 (10) 37-38 (1977) [En]

The factories of Alveston Kitchens at Stratford and Redditch, in which boil-in-the-bag dishes are prepared, cooked, frozen and packed are described. 90% of their prepared meals go for catering. AL

71

Food service evaluation by computer analysis of a patient questionnaire.
Armstrong, H. E.; Reeve, J. J.
Journal of the Canadian Dietetic Association 39 (2) 109-114 (1978) [En] [Min. of Health, Parliament Buildings, Victoria, British Columbia V8V 1X4, Canada]

A 1-page questionnaire, developed to obtain detailed knowledge of the hospital patient's response to the quality of food and its service, asks 24 pertinent questions. Computer analysis of completed questionnaires indicates the degree of acceptability of separate food items, total food items and of service. The questionnaire could focus the attention of management on any item where the response indicated a low degree of acceptability. If used on a regular basis, the questionnaire would provide an ongoing evaluation of the quality of food and its service. AS

72

Protecting consumers who eat on the run.
Greene, T.
FDA Consumer 11 (8) 6-9 (1977) [En]

FDA interstate travel sanitation specialists make sure that the food served on planes and trains is prepared and served under sanitary conditions. 600 catering firms make millions of meals each year for the travelling public. The sanitation specialists inspect facilities where the food is prepared, the airport and depot commissaries where it is held before being put on planes or trains, and also the galleys or other facilities from which the food is served. The caterers's kitchen, cold storage area, and dry and canned goods storeroom are checked for possible rodent or insect contamination. Each inspected firm receives a point score with demerits given for violations. The number of demerits depends on the seriousness of the violation, and 21 or more demerits means the facility does not meet FDA standards. Usually the caterer is given 30 days to correct the violations. VJG

73

[Price structure and profit margins of beer in catering establishments.] Preisgestaltung und Kalkulation bei Bier in der Gastronomie.
Book, K.-H.
Brauwelt 118 (12/13) 408, 410, 415-416 (1978)
[De]

In the Federal Republic of Germany 30% of beer consumption is accounted for by catering uses, with relative proportions of draught to bottled beer of 75:25%. Export beers (32%) are dominated by Pils beer (63%). Sale prices give the lowest profitability for the 0.2 l. glass, with little difference in the margins for different kinds of beer. Higher differences in margins exist for different bottled beers; while the margin on a 0.33 l. bottle may exceed 200%, a 0.5 l. bottle may scarcely reach 125%. TUB-IGB

74

[Variation in the composition of vegetables delivered to a caterer.]
Hansen, H.
Tidsskrift for Planteavl 81 (4) 492-495 (1977) [4 ref. Da, en] [Statens Forsogsta., Kirstenebjergvej 6, 5792 Arslev, Denmark]

Samples of cauliflowers, carrots, potatoes and lettuces supplied to a caterer were analysed at 2-wk intervals during the period summer 1974-summer 1975. Tables of data are given for concn. of moisture, protein, ash, Na, K, Mg, Ca, P and nitrate. The results are compared to standard values given in the Food Composition Tables of Souci, Fachmann & Kraut [FSTA (1969) 1 11A296]. Cauliflower had the greatest variation in moisture and protein concn.; lettuce had the greatest variation in ash concn. and levels of most mineral constituents. Cauliflowers, carrots and potatoes contained approx. 0.04% NO^-_3-N in the DM, vs. 0.71% for lettuce. Concn. of most constituents studied were higher in the experimental samples than in the Food Composition Tables. AJDW

75

A sampling plan for the Australian Defence Force Food Specifications.
Board, P. W.
Food Technology in Australia 30 (4) 154-157 (1978) [En] [CSIRO Div. of Food Res., North Ryde, NSW 2113, Australia]

The Australian Defence Force Food (ADFF) Specifications Committee is responsible for preparing specifications for raw and processed foods and food packages for the armed services. The development of a formalized sampling plan is discussed. Factors influencing the final form of the sampling procedure, and the efficiency of the sampling plan are considered. The essential features of the sampling plan are shown in a flow diagram, and the form in which the sampling plan will be published in the ADFF Specifications is shown in the Appendix to the paper. VJG

76

[Importance of bread and rolls in eating away from home.] Brot und Kleingebäck in der Ausser-Haus-Verpflegung.
Sauer, H.-J.
Getreide, Mehl und Brot 32 (5) 133-135 (1978) [13 ref. De] [Vereinigung Getreidewirtschaftliche Marktforschung e.V., Kronprinzenstrasse 51, 5300 Bonn-Bad Godesberg, Federal Republic of Germany]

The growth in eating away from home has increased the food services market available for the baking industry. The suitability of bread for the catering industry is mentioned as it is recognized as a nutritious food, and is considered a 'convenience' food. Industrial canteen catering, especially between-meal breaks, is seen as an important potential market for the baking industry. DIH

77

[Production and supply of a range of breads and rolls for the away-from-home catering market.] Herstellung und Angebotsmöglichkeiten eines Brot- und Kleingebäcksortiments für die Ausser-Haus-Verpflegung.
Brümmer, J.-M.; Stephan, H.
Getreide, Mehl und Brot 32 (5) 137-141 (1978) [9 ref. De]

The importance of large-scale consumers, such as industrial canteens, institutional catering, and the hotel and restaurant trade, to the baking industry is discussed. Special requirements of individual parts of the market are mentioned, such as dietetic breads for hospital catering. It is thought that bakery products could assume greater importance in the gastronomic section of the catering trade. The importance of good bread aroma is stressed; rolls have a greater proportion of crust than sliced bread and often accompany food better. A range of breads and rolls suitable for large-scale caterers is recommended, and suggestions are made about packaging and storage. Loaves may be individually packaged, but rolls intended for storage are best deep-frozen. Recommended freezing and thawing practices are described. DIH

78

[Between-meal times in communal feeding.] Zwischenverpflegung in der Gemeinschaftsverpflegung.
Bohl, A.
Getreide, Mehl und Brot 32 (5) 135-137 (1978) [1 ref. De] [Redaktion GV-Praxis, Schumannstrasse 27, 6000 Frankfurt/Main, Federal Republic of Germany]

The importance of taking several small meal breaks in a day instead of 3 main meals is briefly discussed from nutritional and economic aspects. Nutritionists recommend 5 meal times/day, and the importance of these extra meal breaks to canteens and institutional caterers, and hence to the baking industry, is discussed. Bread and rolls play an important part in morning and afternoon breaks. The results of a questionnaire about purchase and use of bread and rolls by canteens and institutional caterers are discussed; information reported includes number of suppliers, regularity of purchase, packaging of purchases, reaction to new products, total use of bakery products, distribution at meal time, types of bread used, and opinions on information offered about bakery products by suppliers. Differences in use of bread and rolls between the 2 types of caterers are apparent, but both seem willing to introduce new bread types and desire more information about nutritive content and storage life of baked products. DIH

79

Foodservice: industry gusher or billion-dollar dry well.
Marks, D.
Dairy and Ice Cream Field 161 (5) 69, 71-74 (1978) [En]

A brief account is given of the discussions at the 'Dairy products and the food service industry' conference held in Chicago by the MIR/IAICM on 14-15 March 1978. It is contended that the current trend towards eating away from the home is creating vast new and largely untapped markets for dairies. This trend appears to be particularly marked for young men (22-34 yr) and in general men rather than women. Outlets include eating and drinking places, hotels, motels, recreational locations, schools (in the USA schools now serve breakfast to 2.5 million pupils and lunch to 25 million), hospitals and nursing homes, factories, offices and airlines. The range of products marketed via such outlets includes ice cream, cheese, liquid milk, yoghurt, buttermilk, sour cream and salad dressings. The importance of desserts in rapid counter service outlets is stressed. FL

80

[Bacteriological condition of milk and cocoa in schools and kindergartens, with particular reference to distribution from dispensers.] Die bakteriologische Beschaffenheit von Milch und Kakao in Schulen und Kindergärten unter besonderer Berücksichtigung der Abgabe aus Dispensern.
Thierer, H.
Molkerei-Zeitung Welt der Milch 32 (17) 507-508 (1978) [De]

During 2 yr, the milk control division of the City of Munich Veterinary Office carried out routine tests on 697 samples of milk and 626 samples of cocoa from Munich Schools and kindergartens. UHT milk constituted 33% and UHT cocoa 62% of the samples, both packaged mostly in 0.2-l. Tetra Brik; 4 samples of milk and 6 of cocoa proved organoleptically unsatisfactory and contained aerobic sporeformers; the fault was traced to plant breakdown. 49% of pasteurized milk samples and 26% of pasteurized cocoa samples were in 0.25-l. Tetra Pak (tetrahedral) or Blocpak packs. In most pasteurized samples, bacterial counts were < 100 000/ml and coli titres were negative. Examination of samples from dispensers (average temp. 8.7°C) gave very variable results, and it is recommended that containers [illegible] them be marked by the dairy factory with production date and keeping life of product; that they be used up rapidly, and any residues discarded; and that strict instructions be issued to school personnel dealing with milk dispensing. SKK

81

[Optimal systems for provision of school milk.] Optimale Schulmilch-Verpflegungssysteme.
Wietbrauk, H.
Molkerei-Zeitung Welt der Milch 32 (16) 471-472, 474-476 (1978) [9 ref. De] [Bundesanstalt für Milchforschung, Kiel, Federal Republic of Germany]

This illustrated paper deals with bases and structure of school milk provision, milk varieties offered, consumption temp., sales promotion, price subsidies and distribution systems. The main conclusions are that sale on demand without ordering or pre-payment is to be recommended, particularly for older pupils; that manual distribution over the counter may be facilitated in larger schools by introduction of automatic machines for sale of tokens for the milk varieties offered; that vending machines for packaged products should be used only in schools where supply facilities are required outside the manual distribution times; and that manually operated cooled milk dispensers are particularly suitable for schools, cafeterias and larger kindergartens. [See also FSTA (1978) 10 7P1001.] SKK

82

[Marketing of school milk products - more than a mere sales strategy.] Marketing für Schulmilch-Produkte - mehr als nur Verkaufsstrategie.
Müller, H. B.
Molkerei-Zeitung Welt der Milch 32 (19) 570-572, 574 (1978) [De]

This lecture deals in broad terms with the provision of school-milk products in the Federal Republic of Germany, discussing current changes in the supply structure, the marketing endeavours of dairy companies, and promotion measures, with particular reference to the activities of Westfalenmilch GmbH. SKK

83

[Experience with distribution of school milk.] Erfahrungen mit der Distribution von Schulmilch.
Bublitz, H.-G.
Molkerei-Zeitung Welt der Milch 32 (22) 704, 706 (1978) [De]

This lecture deals with the distribution of school milk products by the United Brunswick Dairies (Vereinigte Braunschweiger Molkereien). The area supplied by these dairies includes 183 schools of various types with a total of 86 300 pupils. 22 distribution rounds ensure delivery between 3.45 and 7.45 a.m., 5 days/wk to 60% of the schools and 6 days/wk to 40%. Details of delivery and reception are given; with problems and their solutions, and proposed developments are mentioned. SKK

84

[The new gold-seal brand concept substantially increases sales of fresh milk.] Neues Goldsiegel-Markenkonzept bringt erhebliche Steigerung im Frischmilchabsatz.
Anon.
Molkerei-Zeitung Welt der Milch 32 (21) 663-665 (1978) [De]

This illustrated article describes the development by the Milchzentrale Karlsruhe GmbH dairy, Karlsruhe (Federal Republic of Germany) of their 'gold-seal' assortment of highest-quality milk products consisting at present of pasteurized milk with 3.5 or 1.5% fat, whipping cream, and cultured cream. The pasteurized 'gold-seal' milk is packaged on Pure-Pak QPCF and QM installations provided with Accu filler devices in 1-l. ½-l. packs, which are assembled on plastics trays for retail display. For school milk in ¼-l. packs and for the cream products the Elopak tray system is used for palette stacking and display. Promotion measures are described. It is stated that since the introduction of the 'gold-seal' milk, sales of school milk in Karlsruhe have increased by 300%. SKK

85

Cook/chill foodservice systems: microwave heating precooked portions of beef loaf.
Dahl, C. A.; Matthews, M. E.
Journal of Microwave Power 13 (1) 87-93 (1978) [15 ref. En] [Dep. of Food Sci., Univ. of Wisconsin, Madison, Wisconsin 53706, USA]

Studies on reheating of 100 g portions of precooked ground beef loaf in a microwave oven (operating at 2450 MHz, manufacturer's rating 1250 W/h) are described. 10 beef loaf portions were used in each of 4 replications. The meat loaf portions (initial temp. 6.0-15.0° C) were microwave heated to temp. ≥74° C, and the final temp., temp. change, microwave heating time, heating rate and % portion yield were determined. Tables of results are given. Overall mean values and ranges were: final temp. 81.7 and 74.0-93.0° C; temp. change 51.0 and 42.0-68.0° C; heating time 46.1 and 35.0-60.0 S; rate of heating 1.0 and 0.9-1.5° C/s 100g; and % yield (preheat wt. basis) 87.8 and 80.0-94.0. The results are discussed in relation to use of microwave ovens in hospital cook/chill food systems. The importance of accurate temp. control of the heated product (to ± 1° C) is considered, and it is suggested that a suitable thermal monitor system for processed foods should be developed. AJDW

86

[Utensils for catering trade. Main dimensions and technical requirements.]
Hungary, Magyar Szabvanyugyi Hivatal
Hungarian Standard MSZ 15181-76, 8pp. (1976) [Hu]

87

[Equipment for catering trade. Main dimensions.]
Hungary, Magyar Szabvanyugyi Hivatal
Hungarian Standard MSZ 15182-76, 7pp. (1976) [Hu]

88

[Containers for catering trade. Main dimensions.]
Hungary, Magyar Szabvanyugyi Hivatal
Hungarian Standard MSZ 15183-76, 2pp. (1976) [Hu]

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FAB 24

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INTRODUCTION

Food Annotated Bibliographies (FABs) are collections of abstracts on specific topics in food science and technology. The topics are chosen by the staff of the International Food Information Service as being of particular interest or importance. The topics normally interest individual workers, who may not require the full information provided in Food Science and Technology Abstracts, from which the abstracts for FABs are taken. The size and the cost of the FABs are controlled as much as possible with the interests of individual workers in mind.

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Coverage of the subject has been restricted to that of Food Science and Technology Abstracts, which covers over 1200 of the important food journals, patents from 20 countries and books published world-wide. Every effort is made to include all significant references, but editorial discretion is used on the many articles of borderline interest. If the reader particularly needs an exhaustive search of the subject, we will be pleased to provide any other references that we have available. We would, in any case, encourage readers to write or telephone us with any comments or queries that they may have.

H. BROOKES

EDITOR

1

1

Occurrence of Bacillus cereus and the bacteriological quality of Chinese 'take-out' foods.
Schiemann, D. A.
Journal of Food Protection 41 (6) 450–454 (1978) [22 ref. En] [Ontario Min. of Health, Box 9000 Terminal A, Toronto, Ontario M5W 1R5, Canada]

165 samples of various foods (including meat, vegetables, rice and shrimps) were collected from 24 different Chinese take-away restaurants for bacteriological examination which included enumeration of Bacillus cereus by 3 media, MYP, KG and blood agars. Blood agar was less selective but no quantitative differences in recovery were apparent. 28 samples (15%) yielded B. cereus at >100/g, and 20 of these were fried rice (33% positive), which also showed the poorest overall bacteriological quality. Biochemical characterization of 232 isolates of B. cereus showed ≥96% positive for catalase, nitrate reduction, beta-haemolysis, subterminal-ellipsoidal spores, aerobic and anaerobic utilization of glucose, Voges-Proskauer, fermentation of glycerol, gelatin hydrolysis, and alkaline peptonization of litmus milk; and a negative reaction in mannitol. Variable results were obtained for motility, fermentation of sucrose and salicin, and starch hydrolysis. 33 isolates were susceptible to 12 of 19 antibiotics tested, and resistant to colistin. 6 (18%) were susceptible to penicillin.   AS

2

Environmental health surveillance at the 1976 Festival of American Folklife.
Summers, D. K.; Fritz, J. H.
Journal of Food Protection 41 (8) 660–666 (1978) [En] [Environmental Sanitation Program, Nat. Park Service, 1100 L Street, NW, Washington DC 20240, USA]

A description is given of the environmental sanitation planning, and operation and inspection of the food service stands during the 1976 Festival of American Folklife. This outdoor event was visited by an estimated 4 million people, and foods and beverages were served on site by Government Services Inc. food service stands and specialized 'ethnic' food stands. No cases of foodborne illness occurring as a result of the festival were reported. A number of recommendations are made concerning the design of food service facilities for such festivals, and the following improvements in operating practices are suggested: storage of bakery products overnight in rodent-proof containers, provision of scoops, spoons etc. to minimize contact with foods when serving, provision of approved single-service cup dispensers, use of fewer animals (e.g. by mounted police) in visitor areas, and storage of outdoor grills under cover when not in use.   DIH

3

[Protection of foods against extrinsic hazards – an indispensible activity of dieticians in the 1980's.]
Mossel, D. A. A.
Voeding 39 (9) 254–258 (1978) [87 ref. Nl, en]

The importance of avoidance of contamination of foods is discussed, with special reference to the relatively low resistance to poisoning or infection of hospital patients and inmates of old peoples' homes. Aspects considered include; chemical contamination (covering heavy metals, shellfish toxins, pesticide residues, and food additives); sources of chemical contamination, with special reference to use of unsuitable kitchenware; microbiological hazards, and their avoidance; secondary effects of food-borne infections; and the necessary training for dieticians etc.   AJDW

4

[Influence of changed eating habits on the occurrence of bacterial food poisoning.] Der Einfluss veränderter Ernährungsgewohnheiten auf das Vorkommen von bakteriellen Lebensmittelvergiftungen. [Review]
Uzelac, G.; Propach, S.
Ernährungs-Umschau 24 (10) 323–328; 322 (1977) [23 ref. De, en] [Inst. für Pflanzenkrankheiten, Univ. of Bonn, Bonn, Federal Republic of Germany]

As recent statistical evidence indicates a rise in the frequency of bacterial food poisoning, a literature review was undertaken to investigate the causes. Bacterial agents of food poisoning cases are tabulated, with the relevant ref., to show examples of pathogenic bacteria in institutional catering, prepared foods, and imported foods, all of which are seen as aspects of changes in eating habits.   DIH

5

[Measures taken by the EEC, German Federal government and Länder in respect of school milk.] Massnahmen durch EG, Bund und Länder bezüglich der Schulmilch.
Kosmack, U.
Deutsche Milchwirtschaft 29 (33) 1156–1157 (1978) [De]

Information is given on school milk subsidies in the German Federal Republic. The new rates for whole milk and whole milk products, partially separated milk and milk products, and skim-milk products are resp. 59.00, 41.29 and 27.30 DM/100 kg, with the respective contributions by the EEC and the Federal government of 44.36 and 14.64, 27.64 and 13.65, and 18.29 and 9.01 DM. The prices charged at schools vary in different Länder, being for instance generally 0.25 DM/0.2 and 0.25 l. packs of milk or cocoa milk in Baden-Württemberg; 0.30 DM/0.25 l. packs of cocoa milk and 0.25 DM for milk in Nordrhein-Westfalen; and 0.28 DM/0.2 l. cocoa milk and 0.25 DM for milk in Bremen. In other Länder the school milk programme has not yet been introduced.   FL

6

[Sales promotion activities on the Danish catering market.]
Krusebaek-Jensen, K.
Nordisk Mejeriindustri 5 (6) 339, 341 (1978) [Da]

This is the 1st in a series of articles examining the catering markets for dairy products in the various Scandinavian countries. The titles of the other articles are: Trade in catering products in Finland, by A. Tirkkonen (pp. 341, 343, 345); The catering market in Norway, by F. Flatby & B. Aalde (pp. 345, 347, 349);

Catering – an expanding market, by G. Vamling (pp. 349, 351, 353); and Charting the Swedish catering industry, by M. Göransson (pp. 353, 355–356). It is estimated that in Denmark, for example, about 25% of all milk, cream, butter and cheese sales are to caterers, mainly hotels, restaurants and cafeterias. ADL

7

[Aspects of school milk market in Great Britain, France and Denmark.] Aspekte des Schulmilchmarktes in Grossbritannien, Frankreich und Dänemark.
Bücker, J.
Deutsche Milchwirtschaft 29 (28) 1005–1006 (1978) [De]

A brief survey is given on the position of school milk in the UK and particularly in France and Denmark. In Denmark in the spring of 1977 milk was available daily to some 2/3 of all schoolchildren and about 33% obtained it free of charge. Whole milk, fat-reduced milk, skim-milk and buttermilk were available in schools providing free milk, and in schools imposing charges, cocoa and yoghurt were also obtainable. Almost all Danish schools now have refrigerators, obtained at reduced prices or free of charge. At present school milk is available to about 875 000 out of 1 000 000 pupils in 1500 schools in Denmark, but free milk is supplied to only 250 schools. FL

8

Foodservice equipment: technological trends.
Decareau, R. V.
Journal of Food Protection 41 (6) 459–463 (1978) [1 ref. En] [Food Eng. Lab., US Army Natick Res. & Eng. Command, Natick, Massachusetts 01760, USA]

A major incentive for development of improved food service equipment is the need for energy conservation. Despite contrary popular belief, preservation of foods in the frozen form provides sufficient comparative advantages and economies to keep frozen foods in the market-place for the foreseeable future. Equipment is being developed for rapid chilling and freezing of bulk foods and for defrosting and heating those foods. Liquid N_2 is often used. Convection, directed hot air, IR and microwave heating are being used singly and in combination to temper, thaw and heat frozen foods rapidly and efficiently. The heat pipe concept, a space technology product, has been adapted for use in grills. AS

9

Trends in food packaging for foodservice.
Schulz, G. L.
Journal of Food Protection 41 (6) 464–467 (1978) [8 ref. En] [US Army Natick Res. & Development Command, Natick, Massachusetts 01760, USA]

Forces shaping the food package of the future include convenience, economy and energy conservation. 3 new packages are particularly interesting, viz., retort pouch, hermetically-sealed trays and semi-rigid retortable trays. The retort pouch has been widely researched and is making inroads on the market. Applications should increase when materials used in the adhesive system are approved as meeting US extractives standards. Foods can be thermally-processed and stored ambiently in shallow, hermetically-sealed trays. Processing is accomplished rapidly with improved quality and energy savings. Semi-rigid retortable containers range in size from single-serving to half-size steam-table trays. AS

10

[Use and present experience with the application of textured vegetable protein (TVP) in communal feeding.]
Modic, P.; Bastic, L.; Turabatovic, L.; Stancic, Z.
Tehnologija Mesa 19 (2) 49–52 (1978) [25 ref. Sh, en] [Jugoslovenski Inst. za Tehnologiju Mesa, Belgrade, Yugoslavia]

In view of the excellent nutritional properties of TVP the possibility of its utilization for feeding of children as well as in communal feeding was investigated. Reconstituted TVP may substitute up to 30% meat without any reduction of the nutritional, sensory and culinary properties. In this way a reduction of costs amounting to 20–30% may be achieved. STI

11

Hospital foodservice – 1978 and beyond.
Unklesbay, N.
Journal of Food Protection 41 (6) 471–475 (1978) [6 ref. En] [Dep. of Food Sci. & Nutr., Univ. of Missouri-Columbia, Columbia, Missouri 65201, USA]

This paper discusses how changes within the health care and food processing industries have influenced development of alternative food service systems and projects some future trends related to resource usage. Schematic diagrams for 4 alternative food service systems are presented and discussed. The need for strengthening cooperation among food processing and food service industries is emphasized. Research activities related to the quality and safety of foods within each of these systems have been limited. In addition, these food service systems evolved without adequate consideration of effective use of energy resources. In the future, food processors and food service managers will have to coordinate their functions to serve good quality, energy-efficient menu items. AS

12

The foodservice industry of our future.
O'Malley, P. L.
Journal of Food Protection 41 (6) 455–458 (1978) [En] [Nat. Restaurant Ass., Suite 2600, One IBM Plaza, Chicago, Illinois 60610, USA]

Trends affecting the development of the American food service industry, which currently employs 8 million people, are discussed. As more meals are eaten away from home nutritional needs play a greater part in food preparation; as well as preparation, menu descriptions of food and its nutritional properties are important. Different sections of the population have different nutritional requirements; these requirements should be catered for by identifying the type of customers served in a particular establishment. DIH

13

[Technological aspects of communal feeding, I. Hot distribution.]
Valles, S.; Carbonell, J. V.; Pinaga, F.
Revista de Agroquimica y Tecnologia de Alimentos 18 (1) 34–46 (1978) [27 ref. Es] [Inst. de Agroquimica y Tecnologia de Alimentos, Valencia, Spain]

The first of a series of articles on technological aspects of large-scale catering discusses the effects of distributing hot cooked meals. These can be transported up to 50 km at ≥60–65° C. A review of the effect on sensory, nutritive and microbiological qualities suggests that food should not be kept for >3 h. RM

14

[Food preparation in institutional catering.] Lebensmittelzubereitung unter dem Aspekt der Grossküche.
Zacharias, R.
Ernährungs-Umschau 24 (9) 304–311; 268 (1977) [31 ref. De, en] [Bundesforschungsanstalt für Ernährung, Stuttgart-Hohenheim, Federal Republic of Germany]

The effect of food preparation techniques used in large-scale catering operations on food quality is reviewed. Effects of preparation, cooking and keeping warm on nutritional quality and acceptability are discussed and summarized in a table. Losses of vitamins during preparation of raw foods and cooking are considered in detail and vitamin C content of green vegetables and potatoes prepared and cooked by various techniques is displayed graphically. Vegetables must often be kept warm in large-scale catering and mean vitamin losses for a number of foods held at 70° C are tabulated for 1, 3 and 5 h. Further research on such topics is needed, but keeping foods hot for >3 h is not recommended. DIH

15

[New aspects in communal feeding. Combined deep-freeze kitchen or conventional kitchen?] Neue Aspekte in der Gemeinschaftsverpflegung. Tiefkühl-Mischküche oder konventionelle Küche?
Benz, R.
Ernährungs-Umschau 25 (1) 27–30 (1978) [De] Dammtorwall 15, D-2000 Hamburg 36, Federal Republic of Germany]

The advantages of deep freezing/reheating in institutional catering are considered, and the economics of this system are compared in detail with conventional food preparation and cooking. Claimed advantages for serving reheated frozen food include serving freshly prepared food to all consumers, higher quality of frozen food, independence of cultivation season, less labour required and less investment is required in the kitchen. Detailed analysis of investments, space requirement, labour requirements and costs, and costs of menu items is given. DIH

16

[Experience with fruit milk beverages in the school.] Erfahrungen mit Fruchtmilchgetränken in der Schule.
Marquardt, W.
Molkerei-Zeitung Welt der Milch 32 (29) 934 (1978) [De]

Milk which has been UHT treated (at 142° C for about 4.6 s) is packaged aseptically in transparent plastics bottles immediately after these have been formed by a process involving melting of granulated polyethylene at about 220° C. Only natural fruit preparations are used in the production of the fruit-milk range, comprising strawberry, vanilla, chocolate and banana flavours, as well as fruit-flavoured buttermilk. It is claimed that introduction of these beverages in schools supplying only a cocoa drink resulted in a 4-fold increase in sales. FL

17

[Facts about apples.] Wissenswertes vom Apfel.
Franz, G.
Ernährungs-Umschau 24 (11) B45–B47 (1977) [8 ref. De] [Feldbergstrasse 28, Frankfurt am Main, Federal Republic of Germany]

It is pointed out that apples are a convenient and nutritious between-meal snack for schoolchildren and can be used as a source of vitamin C. The major var. grown in Germany are listed, and the vitamin C contents of 8 var. are tabulated. The composition of a typical apple is given and recommendations about storage of apples are made with respect to var. DIH

18

[Comparative investigations of different potato cooking processes.] Vergleichende Untersuchungen an Kartoffeln mittels unterschiedlicher Garverfahren.
Bielig, H. J.; Schulz-Gursch, W. H.; Treptow, H.
Ernährungs-Umschau 24 (12) 403–408 (1977) [14 ref. De, en] [Inst. für Lebensmitteltech., Frucht- & Gemüse Tech., Tech. Univ. Berlin, D-1000 Berlin 33]

Optimum cooking of potatoes in institutional catering was investigated by cooking potatoes at (i) 100° C or under excess pressure of (ii) 0.5 atm or (iii) 1.8 atm. Effects of a dip in a solution of 6 g SO_2/l. before cooking were also studied. Ascorbic acid losses for SO_2-treated and untreated potatoes, resp. were (i) 11.0 and 31.0%, (ii) 6.5 and 22.5% and (iii) 12.1 and 39.4%. Ascorbic acid, ash, K, Ca and water contents of raw and cooked potatoes and of the cooking water/condensate are tabulated for (i)–(iii) as are texture measurements and sensory taste evaluation. Mean levels of SO_2 in treated, cooked potatoes was 7.5 mg/kg and SO_2 treatment only slightly reduced flavour scores. Highest flavour scores were received by (i) potatoes, closely followed by (ii). It was concluded that (ii), after the SO_2 dip, is the most satisfactory process for institutional catering. DIH

19

Temperatures of spaghetti after heating in convection ovens at service locations in a commissary foodservice system.
Cremer, M. L.
Journal of Food Science 43 (4) 1062–1065, 1070 (1978) [8 ref. En] [School of Home Economics, Ohio State Univ., 1787 Neil Avenue, Columbus, Ohio 43210, USA]

Effects of equipment model and position of food were examined to determine temp. variability and factors influencing temp. of spaghetti heated in convection ovens in a commissary foodservice system. Significant

($P < 0.01$) differences in temp. were found as food was heated in 4 models and 12 positions. Factors which appeared to affect temp. included oven thermostatic setting, oven power rating, location of heating elements, number of meals heated, number of fans, and the presence of an oven floor. Temp. variability existed and was related to model of oven and position of food. This appeared to be influenced by factors of equipment engineering and use which must be improved if ovens of this type are to be effectively utilized. IFT

20

[Flavoured milk beverages and puddings in school meals.] Milchmischgetränke und Fertigpuddinge in der Schülerverpflegung.
Andersen, G.
Deutsche Milchwirtschaft 29 (32) 1135–1136 (1978) [De]

Cocoa milk is a well established milk beverage for school breaks, but recently types with banana, vanilla and caramel flavours have become available. Cocoa beverage is either pasteurized or UHT-sterilized and contains for instance 3.4–3.7% sucrose, 1.2% cocoa powder, and 0.015–0.033% stabilizer, mostly carrageenan. In schools in the Federal Republic of Germany, chocolate pudding is most popular, accounting for 80% of all puddings consumed, followed by vanilla pudding. Puddings are either pasteurized and sold mainly through refrigerated vending machines, or else UHT-sterilized. They generally do not compete with flavoured milks but provide additional sales. FL

21

[Hygiene in high-capacity food preparation facilities.] Hygiene in der Grossküche.
Dziomba, G.
GV-Praxis mit Tiefkühlpraxis 17 (10) 56–57 (1977) [De] [Lever-Ind., Mannheim, Federal Republic of Germany]

Aspects covered in this discussion of hygiene in the catering industry include: definitions of terms; the need for high standards of hygiene; cleaning and sterilization equipment and methods; cleaning agents; sterilizing agents; and personal hygiene. AJDW

22

[Some aspects of school milk market in Benelux countries.] Aspekte des Schulmilchmarktes in den Benelux-Ländern.
Röling, F. J.
Molkerei-Zeitung Welt der Milch 32 (27) 868–870 (1978) [De]

The position and prospects of school milk distribution in the Benelux countries are outlined. In Luxembourg, there is as yet no school milk programme on a national scale, and a decision on its introduction during 1978 is still pending. 2 of the 4 Luxembourg dairy factories produce liquid milk packaged in sachets or Pure Pak; glass bottles are no longer used. In Belgium, the Government has since 1971 subsidized ordinary, Class A and Class AA whole pasteurized milk delivered to educational establishments, provided they are packaged in 0.2- or 0.25-l. glass bottles or single-trip packs, but because of stringent qualification conditions and low subsidies, uptake of the subsidized milk in schools is low. 13 Belgian dairy factories are qualified to distribute subsidized milk. Ordinary and Class A milks constitute resp. 0.61 and 14.27% of total deliveries; of the remainder (Class AA), half is UHT milk, which in Belgium may be sold as pasteurized. In the Netherlands, declining consumption of school milk caused the school milk committee to launch a 'back-to-school milk' campaign in 1976: in 1965, 70% of schoolchildren drank 0.25 l. milk during the morning break, but by 1976 the number had declined to 50%; 7800 schools took 25 000 t milk in 1969, vs. 7000 schools with 18 000 t in 1975; the number of schoolchildren taking school milk rose slowly from 50 000 in 1938 to 140 000 in 1952, and then rapidly to nearly 700 000 in 1970, but has remained stationary since. SKK

23

The role of the microwave oven in reducing energy consumption in commercial food service.
Snyder, O. P., Jr.
Journal of Microwave Power 13 (3) 263–267 (1978) [6 ref. En] [Dep. of Food Sci. & Nutr., Univ. of Minnesota, St Paul, Minnesota 55108, USA]

Data are given on the energy efficiency of typical food service systems and equipment with a breakdown which includes energy actually required to cook food. A comparison of microwave and convection oven efficiency is also presented. Simple changes which could be made in food service operations to significantly increase their energy efficiency in food preparation are also considered. It is concluded that while many alternatives exist for heating and cooking food, the microwave oven represents a very energy efficient solution in many food service applications; energy savings may reach 65% vs. convection ovens. SP

24

[Thermal requirements of infra-red heater for communal feeding purposes.]
Ostrovskii, L. V.
Izvestiya Vysshikh Uchebnykh Zavedenii, Pishchevaya Tekhnologiya No. 3, 126–129 (1978) [2 ref. Ru] [Sverdlovskii Inst. Narodnogo Khozyaistva, Sverdlovsk, USSR]

A method is presented for calculation of the radiation density for ready-to serve dishes in communal feeding establishments, using a group of linear IR radiators with a flat reflex plate. The method simplifies the calculation of irradiation necessary when using a group of linear sources of IR radiation. The characteristics of the source of radiation are taken into account as well as the nature of the material to be irradiated, and temp. control within a given interval of time is possible. STI

25

[Efficiency and reliability of heating apparatus.]
Litvina, L. S.
Izvestiya Vysshikh Uchebnykh Zavedenii, Pishchevaya Tekhnologiya No. 3, 161–163 (1978) [3 ref. Ru] [Moskovskii Ordena Trudovogo Krasnogo Znameni Inst. Narodnogo Khozyaistva im. G. V.

Plekhanova, Moscow, USSR]

Assessment of the efficiency of heating apparatus in communal feeding establishments may be performed on the basis of efficiency criteria, allowing judgment of the technological and thermo-technical characteristics and the reliability of the equipment. On the basis of standardized efficiency criteria it is proposed to use 2 criteria: the actual throughput of the apparatus and the average coeff. of its technico-economical reliability. STI

26

[Communal feeding: progress in packaging.]
Anon.
Emballages 48 (352) 45-48 (1978) [Fr]

Currently in France, Al foil or cartonboard/polypropylene (or polyethylene) laminate are essentially the only materials on the market for institutional feeding (based on frozen dishes). Both have drawbacks, the former primarily because of its low heat resistance, the latter primarily because of incompatability with microwaves. New materials currently under development, specifically Pyrocote, a US cartonboard/polyester laminate developed by du Pont and Federal Paper Board, and capable of withstanding temp. of 220° F for 45 min, are considered likely to effect a considerable change in this situation. The links in the 'cold' and 'hot' chains of institutional meals are illustrated by schematic flow diagrams. HBr

27

An automated system for planning menus for the elderly in title VII nutrition programs.
Unklesbay, N.; Unklesbay, K.
Food Technology 32 (8) 80-83 (1978) [23 ref. En] [Univ. of Missouri, Columbia, Missouri 65211, USA]

An automated menu planning system suitable for use in the Nutrition Program for the Elderly, in which title VII nutrition projects are federally-funded state administered food service programmes, is described. A food component data base is established containing details such as availability, nutrient content, cost etc. A menu item data base is also established containing details such as serving sizes, last date served, preference for this food of the consumers, physical characteristic descriptions, and nutrient content (this is calculated automatically from the food component data base). Trial menus are then appraised automatically, using considerations such as seasonal availability of the food, frequency of serving an entree as related to its preference, texture and colour balance of the menu items, and adequate nutritional and energy content. DIH

28

[Frying, cooking and warm holding of foods. Studies on preparation and handling of foods in catering establishments. A seminar at SIK, Göteborg on 11 December 1975] [Conference proceedings]
Sweden, SIK – Svenska Livsmedelsinstitutet
SIK Rapport No. 392, vii + 24pp. ISBN 91-7290-032-6 (1975) [Sv] [SIK – Svenska Livsmedelsinst., Fack, S-400 21 Göteborg 16, Sweden]

The full text is given of the following papers presented at this seminar: Research problems and current work concerning the producer-user chain, by B. Hallström (4pp.); Results of frying studies at Lund Technical University and SIK, by P. Sörenfors, C. Skjöldebrand & M. Dagerskog (5pp.); Boiling of potatoes by the OSCO method [based on AC electrical heating of potatoes in an electrolyte solution (brine) in a vessel equipped with a pair of electrodes], by B. Svensson (1p.); High-pressure cooking, by B. Wernerson (5pp.); Food preparation and warm-holding research at SIK and the Institution for Chemical Nutrition, by N. Bengtsson & B. Karlström (6pp.); Studies on food distribution and handling in a hospital, by L. Jonsson, B. Lindholm & L. Ohlsson (3pp.); and From industry to the consumer, by U. Rambech (4pp.). AJDW

29

[Quality is rated highly. Results of a market survey on meat purchasing and utilization by catering establishments.] Qualität wird gross geschrieben: Fleischverbrauch und -einkauf im Grossverbrauch unter der Lupe der Marktforscher.
Lackner, U.
GV-Praxis mit Tiefkühlpraxis 17 (11) 79-80 (1977) [De]

The results of a consumer survey on meat use and purchase policies of catering establishments are briefly discussed, with reference to: preferences for purchase of meat as primal cuts or portioned cuts; use of prepared meat products; the importance of quality and freshness; the demand for adequately aged meat; cost aspects; sources of supply; and differences between preferences and policies of the various types of catering establishments (restaurants, canteens, etc.). AJDW

30

[Rapid cooking with good nutrient retention.] Kochen – schnell und nährwertschonend.
Anon.
GV-Praxis mit Tiefkühlpraxis 17 (12) 42-45 (1977) [De]

Use of pressure cooking in catering establishments is discussed. Aspects considered include: steaming at atm pressure; steaming in moist air; steaming in saturated steam; pressure-cooking in combination with other rapid cooking techniques; the relation between pressure and temp. in pressure cookers; available types of pressure cooking equipment; vitamin C losses during conventional cooking and pressure cooking; pressure cooking times for various products; and continuous, high-capacity conveyor-type pressure ovens. AJDW

31

The nutritional importance of hydroxyproline balance in metabolic disorders affecting connective tissue. [Lecture]
Mohamedally, S. M.; Wix, P.
International Congress of Food Science & Technology - Abstracts p.284 (1978) [En] [Polytech. of the South Bank, Dep. of Applied Biol. & Food Sci.,

London SE1 OAA, UK]

The hydroxyproline (HP) content of various standard hospital diets was determined, including 'restricted' diet (providing approx. 400 mg HP/day) and HP-rich diets (HP-rich foods include ice-cream, jelly and Bovril). Studies were also made of urinary HP excretion by patients having metabolic bone disorders (and associated diseases) fed the 'restricted' diet. [See FSTA (1979) 11 2A60.] JA

32

Riboflavin and thiamine retention in frozen beef-soy patties and frozen fried chicken heated by methods used in food service operations.
Ang, C. Y. W.; Basillo, L. A.; Cato, B. A.; Livingston, G. E.
Journal of Food Science 43 (3) 1024–1025, 1027 (1978) [2 ref. En] [Food Sci. Ass., Inc., Dobbs Ferry, New York 10522, USA]

Frozen beef-soy patties, raw or char-broiled, and frozen fried, breaded chicken parts were heated by various methods, and vitamin B_1 and B_2 retentions were determined. Heating methods used were: hot air convection followed by holding hot for 0, ½, 1.5, or 3 h and IR, high pressure steam, or microwaves followed by hot holding for ½ h. Riboflavin retentions in beef patties were >89%, except when IR heating was used (80%). Reheated chicken retained 87–93% of riboflavin, and there was no significant difference among treatments. Thiamin retention was lowest in chicken parts reheated by convection and held hot for 3 h (74%). IR heating resulted in 81–84% thiamin retention in beef or chicken while other methods retained 86–96%. Moisture, fat, riboflavin and thiamin contents of raw ingredients and cooked products are tabulated. IFT

33

Mineral intakes of university students: magnesium content.
Srivastava, U. S.; Nadeau, M. H.; Gueneau, L.
Nutrition Reports International 18 (2) 235–242 (1978) [17 ref. En] [Dept. de Nutr., Univ. of Montreal, Montreal, Canada]

Mg content was analysed in the 3 main meals served in a university cafeteria. The average Mg content of the meals was 236 mg/day. The male and female students selected foods containing 247 and 224 mg of Mg resp. which is lower than the recommended dietary allowance of Canada and the USA, which is 400–450 mg/day. Most of the Mg available to students was concentrated in 2 meals: lunch, 91 mg and dinner, 103 mg. There was a large variation of the Mg content depending on the main dish components, which included ham sandwich platter, ham croquette, lasagne, red and white meat, which were usually served with soup, roll and butter, green vegetables, potatoes, salad, a dessert, and coffee or tea. SP

34

[Electric and gas-heated tiltable frying units.] Kippbratpfannen für Elektro- und Gasheizung.
Schwebel, W.
GV-Praxis mit Tiefkühlpraxis 18 (2) 57–58 (1978) [De]

The design, operation, capacity etc. of electric and gas-heated tiltable frying units for use in large-scale food preparation are discussed, with reference to diagrams and tables of data. Advantages, limitations and applications are also considered. AJDW

35

[Electric and gas-heated frying and grilling units.] Brat- und Grillplatten für Elektro- und Gasheizung.
Schwebel, W.
GV-Praxis mit Tiefkühlpraxis 18 (3) 129–130 (1978) [De]

The design and operation of electric and gas-heated frying and grilling units and griddles for use in large-scale food preparation are discussed, with the aid of diagrams and tables of data. Applications, advantages and disadvantages are also considered. AJDW

36

[Planning of catering systems and high capacity food preparation installations.] Planung der Speisenversorgungssysteme und Grossküchenanlagen.
Schwebel, W.
GV-Praxis mit Tiefkühlpraxis 18 (4) 61–62 (1978) [De]

37

Proceedings of the Spring 1978 meeting. Theme: Perspectives in procurement, packaging equipment and ingredients, 1978. [Conference proceedings]
United States of America, Research & Development Associates for Military Food & Packaging Systems Inc.
Activities Report 30 (2) iii + 111pp. (1978) [En]

The proceedings of the conference, held on 11–13 April 1978 in Chicago, Illinois, contain papers under the section headings of Introduction (pp. 1–24); Special presentations on new Government-wide specification program (pp. 25–39); and 4 workshop sessions dealing resp. with Food packaging update & issues (pp. 40–63); Ingredients (pp. 64–88); Latest important developments in food service equipment (pp. 89–94); and New USDA government-wide specification & procurement programs (pp. 95–111). Individual papers include: Accomplishments and current programs at US Army Natick Research & Development Command, by H. F. Penney (pp. 1–4); Commercializing government specifications for food, by L. A. Fettig (pp. 5–8); Packaging challenges and opportunities, by R. B. Holmgren (pp. 9–15); Ingredients – prospectives for the future, by R. J. Moshy (pp. 16–21); Food processing and food service equipment today and tomorrow, by D. Oelerich (pp. 22–24); A new approach to federal food quality assurance, by J. Goodall (pp. 25–28); The new system of operations of the recently organized defense food procurement organization, by S. F. Platt (pp. 29–33); Commercial by design – A DOD overview of commercial commodity acquisition, by J. A. Holmes (pp. 34–35); DOD's role in the government-wide quality assurance program for food, by J. M. Wyatt (pp. 36–39); Retort pouch: manufacturing and systems approach, by G. L. Falkenstein (pp. 40–44); Steam table tray: manufacturing and equipment considerations, by B. J. McKernan (pp. 45–48); Packaging: date labeling, by R. P. Farrow (pp. 49–55); Packaging/recycling and public interest packaging, by P. R. Payne (pp. 56–63); Summary (pp. 64–66); Regulation of food ingredients, by I. D. H. Cuthill (pp. 67–68); Food colors – now and in the future (?) [Non-absorbable polymeric dyes], by J. E. Noonan (pp. 69–73); Nutrition labeling and fortification of food products, by H. P. Gordon (pp. 74–76); A review of food additive usage, by A. Ebert (pp. 77–82); Regulatory aspects of food ingredients, by R. M. Schaffner (pp. 83–88); What's new in food service equipment, by H. Wells (pp. 89–92); and Automatic food heating with jet sweep conveyorized ovens and computer controlled food finishers, by D. T. Smith (pp. 93–94). AL

38

[Quality problems in communal catering.]
Qualitätsprobleme der Gemeinschaftsverpflegung.
Paulus, K.
Verbraucherdienst, B 22 (7) 145–152 (1977) [10 ref. De] [Bundesforschungsanstalt für Ernährung, Karlsruhe, Federal Republic of Germany]

Aspects covered in this discussion of quality problems in catering include: characteristics of school, institutional and industrial catering; food preparation, storage and distribution systems; quality evaluation and quality control; quality problems at various stages of handling and processing, with special reference to the temp./time history of the product; industrial manufacture of prepared meals and quality losses which may occur; preparation of meals in central kitchens, with subsequent distribution in insulated containers; and possibilities for improvement of food quality in catering operations. AJDW

39

Mineral intakes of university students: calcium and phosphorus content.
Srivastava, U. S.; Rakshit, A. K.; Khare, I.
Nutrition Reports International 18 (3) 313–324 (1978) [18 ref. En] [Dep. of Nutr., Univ. of Montreal, Montreal, Quebec, Canada]

Ca and P contents were determined in 3 main meals served in the cafeteria of the University of Montreal. The average Ca and P contents of the meals were 880 mg and 1590.5 mg, resp. The male and female students selected foods containing 901 and 858 mg of Ca, and 1637 and 1544 mg of P, resp. The values on Ca content are in close agreement with those observed by several investigators in Canada and United States. However, the values for P content are very close to those observed in the American diet but are higher than reported in the Canadian diet. These data demonstrate that meals at the cafeteria of University of Montreal provided the Canadian or American recommended dietary allowance for Ca, but exceeded considerably (2 fold) the recommended dietary allowance for P. Hence the ratio of Ca to P in the combined daily meals was 0.55:1 rather than 1:1. Most of the Ca and P available to students was concentrated in 2 meals: Ca, lunch 315 mg and dinner 395 mg; P, lunch 594.5 mg and dinner 668.5 mg. There was a large variation of Ca and P content depending on the main dish component, which included ham sandwich platter, salad platter, cold cuts, veal cutlet, fruit platter, lasagne, red and white meat, ham croquette and blood sausages. AS

40

Mineral intakes of university students: cadmium and manganese content.
Srivastava, U. S.; Nadeau, M. H.; Carbonneau, N.
Nutrition Reports International 18 (3) 325–336 (1978) [17 ref. En] [Dep. of Nutr., Univ. of Montreal, Montreal, Quebec, Canada]

The amount of Cd and Mn in 3 main meals, selected by students in a university cafeteria were analysed over a period of 3 wk. The average Cd and Mn contents of meals selected by the students were 73.15 µg and 3.03 mg, resp. The mean daily intake of Cd in this study was in agreement with that found in a composite Canadian diet. However, the average Mn content was lower than that of the composite Canadian diet, but was in close agreement with that observed in the USA. The Cd and Mn available to students was highly concentrated in only 2 meals: Cd, lunch (26.4 µg) and dinner (32.0 µg); Mn, lunch (1.04 mg) and dinner (1.37 mg). Meals selected by female students contained lower amounts of Cd, 66.5 µg and Mn, 2.60 mg than those selected by male students, 79.8 µg and 3.50 mg, resp. There were large variations in the Cd and Mn concn. of the various types of meals when they were classified according to their main dish component, which included salad platter, veal cutlet, ham sandwich platter, white and red meat, lasagne, cold cuts, blood sausages and fruit platter. AS

41

Foodservice: promotion is the key to tapping a huge market potential.
Morris, R.
Dairy and Ice Cream Field 161 (7) 60, 62, 64 (1978) [En]

About 33% of US consumer expenditure on food goes into eating outside the home. Opportunities for increasing dairy product sales in this market are discussed in the light of recent survey findings. One of the main conclusions from the survey is that promotion should be aimed at the confirmed milk drinker, by ensuring that milk is featured more prominently on restaurant menus. The important role of the American Dairy Association in promoting dairy product sales to restaurants, etc., is stressed. ADL

42

[Economic transport of prepared meals. Systems for distribution of meals to hospitals, institutions and homes.] Wirtschaftlicher Speisentransport. Speisenverteilverfahren für den Krankenhaus-, Anstalts- und Heimbereich.
Schwebel, W.
GV-Praxis mit Tiefkühlpraxis 18 (8) 34–37 (1978) [4 ref. De]

Descriptions are given of procedures for distribution of hot prepared meals, with special reference to the requirements of hospitals, etc. Aspects considered include: centralized food preparation and portioning; systems for holding the food at a suitable temp. (65–85° C), with special reference to heat-retaining inserts in dishes, etc.; max. holding times of hot meals;

requirements concerning the materials, dimensions, and other characteristics of utensils and tableware; transport systems, and their advantages and limitations; and the Multimet system, in which the meals are prepared and portioned at a central station, cooled, distributed under refrigeration, and reheated (in a convection oven) at the location of use. AJDW

43

Lower respiratory tract colonization of seriously ill patients by a waterborne strain of Flavobacterium.
Moulin, G. C. du
Abstracts of the Annual Meeting of the American Society for Microbiology **78,** 285 (1978) [En] [Dep. of Anaesthesia, Harvard Med. School at the Beth Israel Hospital, Boston, Massachusetts, USA]

All patients admitted to the Respiratory-Surgical Intensive Care Unit (R-SICU) of the Beth Israel Hospital from Jan. 1971 to Oct. 1976 were examined prospectively for the presence of Flavobacterium in the respiratory tract. Of 2329 patients examined, a single strain of Flavobacterium was isolated from the sputum of 195 (8.4%). The organism was identified as Flavobacterium sp. Group IIB by numerous biochemical criteria, including the API 20E system. Since none of the patients demonstrated these organisms on admission to the R-SICU a common hospital source was suspected. Periodic examination of the hospital environment showed this organism to be a common saprophyte in tap water, sink drains, ice machines, and in the food preparation areas. Environmental surveillance of similar environments at a local university revealed the same organism. This finding suggested that the municipal water system was the ultimate source. The water from 9 reservoirs was sampled by membrane filtration. Strains of Flavobacterium sp. Group IIB were recovered from 5 of the reservoirs, including the reservoir supplying water to the Beth Israel Hospital and the university. To date this organism has been associated with 5 episodes of pulmonary infection; however, its role as a pulmonary pathogen remains unclear. AS

44

School milk.
Mann, E. J.
Dairy Industries International 43 (11) 31, 35 (1978) [17 ref. En] [Commonwealth Bureau of Dairy Sci. & Tech., Shinfield, Reading RG2 9BB, UK]

Results are reviewed of studies in a number of countries (mainly in Europe) into various aspects of school milk, such as product preferences, organization of distribution, and promotion of school milk consumption. FL

45

[Results of an inquiry into the attitude of schoolchildren and parents to school milk.]
Ergebnisse einer Mehrthemenbefragung von Schülern und Eltern über ihre Einstellung zur 'Schulmilch'.
Anon.
Österreichische Milchwirtschaft 33 (17) 320, 322–323 (1978) [De]

Results are presented of an inquiry among Austrian schoolchildren and parents, commissioned by Tetra Pak-Selfpack GmbH. The breakdown of consumption of (i) milk and (ii) chocolate milk by the 43% of schoolchildren who used school milk was resp. (as % of total): regularly, almost every wk, 18 and 56; fairly frequently, but with breaks, 7 and 20; seldom, 6 and 7; and never, 69 and 17. Flavour rating of (i) and (ii) among the children who used school milk was: good, 26 and 72%; and average, 11 and 10%. 43% of children interviewed were interested in the introduction of school milk in schools currently without it. 91% of the children who drank school milk did so voluntarily, and most children were satisfied with the temp. of distributed milk. Price did not seem to be of critical importance. SKK

46

Energy expended in alternate food service systems for chicken menu items.
Unklesbay, N.; Unklesbay, K.
Journal of the American Dietetic Association 73 (1) 20–26 (1978) [8 ref. En] [Dep. of Food Sci. & Nutr., Univ. of Missouri-Columbia, Missouri, USA]

An energy-accounting model was developed for use in different types of food service systems to determine accumulated energy expenditures/documented units of nutrients in menu items processed for service. The 6 process steps required for the initial production of a baked chicken entree in a conventional food service operation are defined. The model was applied to chicken menu items (baked chicken variations, fried chicken and chicken cacciatore) in 4 types of food service systems; conventional, cook/chill, and assembly/serve – preplated and bulk. Comparisons among the data indicated large variations in BTUs expended/wt. of chicken menu item processed for service. Several implications were made as to how the application of this energy-accounting model can be used to identify areas in which energy can be used more effectively. VJG

47

The modern food service industry. [Book]
Anderson, H. W.
xi + 340pp. ISBN 0-697-08407-8 (1976) [En] Dubuque, Iowa, USA; Wm. C. Brown Company Publishers [Macomb County Community Coll., Mt. Clemens, Michigan, USA]

This book is intended as a text for the first course that students take when they begin to consider the prospect of a food service career. The book is divided into 5 parts. Part I deals with the evolutionary development of the food service industry, chapters include: Early beginnings (pp. 3–12); Food developments of the Roman era (pp. 13–20); The role of food during the middle ages (pp. 21–28); American food service – the first 300 years (pp. 29–38); Food service in America – the last 50 years (pp. 39–42); and The future of our industry (pp. 43–55). Part II covers the food service industry today with chapters on: Multiple unit corporate restaurants (pp. 59–71); Franchized restaurants (pp. 72–84); Industrial caterers (pp. 85–92); Medical food service (pp. 93–102); Military food service (pp. 103–113); Educational feeding (pp. 114–122); Transportation feeding (pp. 123–133); and Vending (pp. 134–143). Part III deals with the considerations involved in owning and operating one's own restaurant and includes the following chapters: Types of business organizations (pp. 147–157); and Owning your own restaurant (pp. 158–165). Part IV considers jobs in the food service industry from several different aspects (pp. 167–245). Part V (pp. 247–334) is a reference section, filled with information frequently needed by students and includes a glossary of terms, a directory of colleges and universities offering training for the hospitality industry, professional organizations, food grower and manufacturer associations, food service unions, and food service publishers and publications, a listing of directories and buyers guides, major food service companies, and bibliographic data. A 6 pp. subject index is also included. SP

48

A multi-echelon menu item forecasting system for hospitals.
Messersmith, A. M.; Moore, A. N.; Hoover, L. W.
Journal of the American Dietetic Association 72 (5) 509–515 (1978) [16 ref. En] [Med. Cent., Univ of Missouri-Columbia, Missouri 65201, USA]

A computerized system of forecasting menu item demand in a hospital, based on patient census, patients' diet categories and menu selections, is described. The system is designed to generate statistical menu-item forecasts several days prior to a designated meal service. Analysis of the performance of the forecasting system was based on the cost of menu-item forecast errors for lead times of 1 through 28 days. Cost values based on forecast errors were computed for forecasts generated by the manual menu-item forecasting technique. The overall best statistical forecasting model was the modified Box-Jenkins, Model 7, which had an average forecast error cost of $6405 for 9 wk for 28 lead times. The total cost of forecast errors for the manual forecasting technique was $10 939 for a lead time of 14 days. Each model tested in the multi-echelon statistical forecasting system generated error costs which were 39–41% below the manual forecasting technique. VJG

49

[Communal feeding.] Obshchestvennoe pitanie. [Book]
Union of Soviet Socialist Republics, Ministerstvo Torgovli Ukrainskoi SSR
85pp. (1977) [Ru] Kiev, USSR; Tekhnika. Price 1.25r

Results of research work into the economics, organization and technology of communal feeding and into equipment for the large-scale preparation of meals are presented. Information relating to higher efficiency in the field of communal feeding is included, as well as information on the formation of prices, labour productivity and the effective organization of communal feeding at factories. This book is No. 13 in the series of collected works issued by the Ukrainian Ministry of Trade. STI

50

[Institutional catering at weekends.]
Wochenendverpflegung in Heimen.
Nau, G.; Vogt, H.
Ernährungs-Umschau 25 (4) B13–B19; (5) B25–B28 (1978) [De] [Perthes-Werk, 4400 Münster, Federal Republic of Germany]

To determine the most economical and nutritious way of providing institutional catering at weekends, an unsocial time to employ staff, 4 menus were prepared from raw ingredients or various grades of convenience foods. Preparation times were monitored and total material and labour costs of the menus for each mode of preparation are displayed graphically. Organoleptic evaluations of the menu items (meat, sauce, vegetables, rice/potatoes) are tabulated (colour, appearance, aroma, flavour and texture). The nutritional values of each menu were estimated from literature values, and are tabulated. From a nutritional point of view, preparation of foods 'in house' is preferred, and it is assumed that each reheating process gives an approx. 50% loss in nutritional value. Menus from fresh ingredients were often rated lower organoleptically than were those from preserved foods; it was assumed that members of the tasting panel, catering staff from old people's homes, were assessing the food from the viewpoint of their consumers (old people prefer soft food). DIH

51

Prepared frozen dinners – modern staple emergency meals?
Jerome, N. W.
Food Technology 32 (11) 48–51 (1978) [9 ref. En] [Dep. of Community Health, School of Med., Univ. of Kansas Med. Cent., Kansas City, Kansas 66103, USA]

A survey was made in 1977 of the use of prepared frozen dinners (PFD) in the USA. The survey collected data, by means of a questionnaire, on the characteristics of users and non-users (age, sex, annual income, racial background and household structure, e.g. living alone, married couples with and without children, single-parent families), frequency of use, and conditions and circumstances of use. Results include the following: 61% of the 2399 people replying to the questionnaire used PFD; 40, 35 and 25% of users used PFD, resp., 3–6 times/yr, 1–2 times/month and at least once/wk; 47% of users used PFD when they were busy while only 5% used them on a regular or routine basis. Data relating to the characteristics of users and non-users and to frequency of use are tabulated. It is concluded that PFD meet an important need in providing an alternative to snacks or eating out in 'emergency' situations. The appeal of PFD lies in their availability, convenience and similarity to the conventional 'balanced' meal. JA

52

Are there new markets to win?
Cookson, B. R.
Frozen Foods 31 (9) 34–35, 37–38 (1978) [En]

The UK catering market for frozen foods is analysed, showing profit sectors (restaurants, cafes, snack bars, clubs, hotels etc.) where profit is the main aim, and costs sectors (industrial canteens, schools and education, hospitals, armed forces etc.) which aim to provide a service. Tabulated data are given showing the protein, fat, carbohydrate, kcal, Fe and Ca contents of 26 frozen meat or fish dishes sold by 1 UK food firm (Ross Foods Ltd.). The impact of the 'fast food' concept is also discussed. HBr

53

The nutritional value of hot meal components prepared in different ways. [Lecture]
Hammink, J.
Annales de la Nutrition et de l'Alimentation 32 (2/3) 459-465 (1978) [En, fr] [Education Bureau of Food & Nutr., Laan Copes van Cattenburch 44, The Hague, Netherlands]

The nutritive value, immediately before consumption, of hot meal components prepared under ideal domestic conditions, in central institutional kitchens and industrially deep-frozen, was examined. 6 different types of meat with gravy, 6 types of vegetables, and mashed and boiled potatoes were analysed for macro- and micro-nutrients. The study revealed that, apart from ascorbic acid, the nutrient content was not affected by the method of preparation. Industrially prepared meals had the lowest ascorbic acid contents, domestically prepared meals the highest contents (no figures are quoted). [See FSTA (1979) 11 5A346.] RM

54

[School milk. Lectures and discussions of the School Milk Congress held on 3-4 April in Giessen.]
Schulmilch. Vorträge und Podiumsdiskussion des Schulmilch-Kongresses am 3. und 4. April 1978 in Giessen. [Conference proceedings]
Anon.
Molkereitechnik 41, 5-102 (1978) [De]

See FSTA (1978) 10 10P1515.

55

[Thiamin contents in food taken by students.]
Kimura, M.; Soen, S.; Saga, T.; Umehara, Y.; Itokawa, Y.; Fujiwara, M.
Vitamins [Bitamin] 52 (1) 25-29 (1978) [10 ref. Ja, en] [Dep. of Hygiene, Fac. of Med., Kyoto Univ., Kyoto 606, Japan]

Because of the high incidence of beriberi amongst young Japanese, food habits of students and food thiamin levels were surveyed. Combinations of food groups from the menu of university cafeterias contained less than the recommended level of 400 µg thiamin/1000 cal. Instant foods and soft drinks favoured by students contained very low amounts of thiamin. [From En summ.] DIH

56

A study of the influence of food and travel on the development of diarrhea in Mexico.
Tjoa, W. K. S.
Dissertation Abstracts International, B 37 (10) 4972-4973: Order No. 77-9281 (1977) [En] [Univ. of Texas Health Sci. Cent., Houston School of Public Health, Houston, Texas, USA]

The development of diarrhoea in 297 students (from the USA, Venezuela and Mexico) at a Mexican University was examined, with reference to the effect of travel within Mexico and of eating places (e.g. private homes, restaurants). Intestinal pathogens were isolated from US and Latin-American students; the incidence of diarrhoea was greater in newly arrived US summer students (40%) than in US regular students (20%) and Latin-Americans (15%). Diarrhoea attacks occurred less frequently in US students who travelled within Mexico than in those who remained at the college. The incidence of diarrhoea among US students was greater when meals were eaten in restaurents and the college cafeteria than when meals were prepared and eaten in private homes. US and Latin-American students who ate food obtained from street vendors had the highest incidence of diarrhoea. Food obtained from restaurants, street vendors and the cafeteria contained a variety of faecal organisms. 4 cafeteria workers were found to be shigella carriers. JA

57

Disposables: suitable for eat-in and take-outs?
Anon.
Fast Food 1 (1) 101 (1978) [En]

The use of disposables makes the following possible: same production system for restaurant and takeaway meals; no need for dishwashing equipment and staff; breakage, pilferage and hygiene problems associated with re-usable ware are eliminated; disposable packaging can be overprinted with company logos etc.; if buffer storage of meals is required over busy periods, packaging can maximize food freshness; and disposables are better at keeping foods hot. Current trends in choice of materials at typical UK takeaway and fast catering operations (chicken, hamburgers, fish and chips, and 'wet' materials) are briefly described. VJG

58

Accuracy of college students' intended entree selections for forecasting production demand.
Johnson, K.; Vaden, A.
Journal of Food Science 44 (1) 257-262 (1979) [20 ref. En] [Dep. of Dietetics, Restaurant & Inst. Management, Kansas State Univ., Manhattan, Kansas 66506, USA]

Accurate forecasting, which is essential to food service management, is based on reliable predictions of food choices. Objectives of this research were to survey intended entree selections of college students and compare actual choices with data of intended selections. Pairing of entree items was a key determinant in reactions of students to the menu items. Degree of certainty and like and dislike of entree items were used to study differences in intended and actual selections. Survey data of intended choices indicated the general pattern of actual selection behaviour; however, the data were not sufficiently accurate for precise forecasting. IFT

59

Labor time comparison of a cook-freeze and a cook-serve system of food production.
Carroll, G. H.; Montag, G. M.
Journal of the Canadian Dietetic Association 40 (1) 39-45, 48-49 (1979) [10 ref. En, fr] [Mercy Hospital, 6th & Univ. Avenue, Des Moines, Iowa 50314, USA]

The labour times involved in preparing 59 selected entree items in cook-freeze and cook-serve systems of food production were compared. No significant differences were found between the 2 systems in production times for the 59 items. Mean scheduled labour time/serving was 0.83 min for the cook-freeze and 0.93 min for the cook-serve system. Advantages and disadvantages of the systems are discussed. AL

60

The high street carve-up.
Anon.
Fast Food 1 (1) 21–24, 26, 30 (1978) [En]

Rising property costs (quadrupled in the past 5 yr) could accelerate the switch to fast food on British high streets. This change has necessitated more intensive use of prime sites. Of parallel significance is the growth in combination retail/catering outlets, also operating on general fast food principles but mixing, for instance, table service and/or self service with hot food takeaway, sandwich bar, patisserie and bakery retail. VJG

61

Why the world wants quicker meals.
Anon.
Fast Food 1 (1) 15–17 (1978) [En]

62

Take-away: the essential option.
Anon.
Fast Food 1 (1) 95–97, 99 (1978) [En]

Consideration is given to: reasons for the growth in take-away trade, the present state of the fish and chip shop business, Chinese take-aways, and Kentucky Fried Chicken, the only kind of takeaway business in which branding has to date become nationally significant. VJG

63

Keeping the product consistent.
Anon.
Fast Food 1 (1) 40–41, 43–47 (1978) [En]

Consideration is given to ways in which technology helps to keep fast products consistent. The latest technology extends from computerized cooking control to special purpose dispensers. Maintenance of quality at the following establishments is discussed: Pizza Hut, the USA's largest pizza restaurant chain; Wendy's chain with its hamburger patties; Don Miller's Hot Bread Kitchen; Burger King hamburgers; Wimpy Bars; and Kentucky Fried Chicken. VJG

64

Food company's tax holiday in Ireland.
Alston, H.
Food Processing Industry 47 (562) 48, 51 (1978) [En]
[Ireland's Industrial Development Authority, 28 Bruton St, London W1, UK]

Swissair and Roco Conserven established a company called Swissco in 1975, on the Little Island Industrial Estate, outside Cork, Ireland. Swissair required a supply of meals at some out-stations where the quality of food available was not up to its standard, and Roco wanted to open a plant inside the EEC. The factory, which represents a £2 million investment, employs 200 people. The meals are vacuum packed in Al foil containers and then sterilized. They are guaranteed to last a year without refrigeration. The Swissco manufacturing process covers a considerable variety, some 90 different dishes each produced in 3 pack sizes. Swissco, which exports all its production, pays no tax at all on its profits. VJG

65

Viva Tacos: a new taste for the family.
Anon.
Fast Food 1 (1) 39 (1978) [En]

Viva Tacos Mexican Food Take-away was set up in Finchley, North London (UK) at the beginning of 1978 by 3 Californians. They now plan a 150-seater unit in Tottenham Court Road, in Central London. The menu is based on tacos, tostados, burritos, enchiritos – all Mexican-style filled pancakes or tortillas. Olives, cornflour, frequently lettuce, and sacks of dried beans (which are soaked, boiled and then mashed up with beef, etc., to produce the characteristic Mexican flavour) are all imported along with the US carbonated beverage 'Dr. Pepper's'. VJG

66

BJ's: trusting in roast beef.
Anon.
Fast Food 1 (1) 33, 36 (1978) [En]

A description is given of the setting up of BJ's fast food restaurant in Fulham Road, London (UK). The product round which the menu is built is a roast beef hamburger. Thin slices are machine-carved from joints slow roasted on the premises and put into 2 sizes of toasted sesame seed roll, priced at 58p and 85p. Chips are the only other cooked item offered. Customers serve themselves to salads, while beverages extend to yoghurt shakes, wine at 47p a glass and Schlitz beer at 45 p/12 oz glass. Everything is served in disposables. The American automatic ovens are loaded up with rolled beef joints (forequarter) twice daily for the 6 h slow roasting process. Temp. probes in the meat are linked to a mini computer with the aim of guaranteeing consistent cooking. It is possible to operate the store with 3 people. 12–16 are employed for the 14 h day/7 days-a-wk operation. VJG

67

Keeping the customer happy.
Anon.
Fast Food 1 (1) 105, 107–110 (1978) [En]

Crucial design considerations in developing an efficient customer service package are discussed. Consideration is given to the pros and cons of the main service alternatives from a fast food service point of view, namely table serve, cafeteria self service, freeflow self service, counter service, and vending machine service. VJG

68

Tuckers: translating the kebab.
Anon.
Fast Food 1 (1) 36, 39 (1978) [En]

Tuckers 60-seater unit operating in Holborn (London, UK) was set up 2 yr ago. Alongside the 2 doner selections (one a Doner and Cheese product which is a Tucker's speciality) are 2 grilled pork items (also served in pitta bread with a salad filling) plus Tucker Burgers, fried chicken and French fries and 2 var. of side salad. Disposable packaging is used on all items, both for sitdown and takeaway meals. Tucker's produce its own doners, typically weighing up to 130 lb each, at its second store at Crouch End. To make a doner, the minced meats (beef to lamb 40:60) are spiced with salt, pepper and onion and rolled into large flat 'cakes' which are then pressed on top of each other for mounting on the vertically rotating spit. Doner slices are obtained by a downward cutting motion. VJG

69

Accuracy of menus in foodservice establishments.
Walker, B., Jr.; Nuzzi, J.; Beck, R. N.
Journal of Food Protection 41 (11) 899–901 (1978) [1 ref. En] [Environmental Health Administration, Gov. of the District of Columbia, Washington, DC 20004, USA]

Summarized findings are published of a survey of 350 menus representing 141 food service establishments in Washington DC. The accuracy of the following menu descriptions was verified: product freshness; USDA meat grades; ageing of meats; diet of meat animals; identity of meat products; sp. type or standard identity description of products; geographical origin of product; and size and wt. Various discrepancies were found, e.g. all shrimps described as fresh had been frozen, >90% of establishments claiming 'Prime' rib beef on menus used 'choice' grade; >75% had discrepancies in portion wt., >75% of establishments supplied turkey where the menu identified chicken, >75% substituted domestic blue cheese for Roquefort and >90% replaced cream with a dairy substitute. Results are discussed with reference to an education, consultation and enforcement programme of the District of Columbia. DIH

70

Problems and opportunities for the foodservice industry in the 1980's.
Roseman, A. S.
Journal of Food Protection 41 (11) 907–909 (1978) [En] [CFS Continental, 2550 N. Clybourn Avenue, Chicago, Illinois 60614, USA]

The food service industry is a many-faceted giant. Based on dollars spent, 1 of 3 meals were consumed away from the home in 1977; in that year sales of food and drink amounted to $85.9 billion. The growing number of singles and working women as well as higher incomes are major factors which will sustain growth of the industry, and by 1981 it will reach a vol. of about $118 billion. The food service industry is the largest US retail employer. In recent yr. labour costs have escalated significantly. Part of this is attributable to the higher min. wage as well as increased social security tax. Another factor causing pressure on profits is the high cost of energy. To reduce these costs, labour saving devices and more efficient scheduling have been used. Solar energy, conservation of power, and central preparation of food have also been used to achieve better economies. Problems with higher labour turnover plus lack of fully or even partially trained food handlers are presented. The impact of consumerism on the industry and the menus of today and the future is revealed. AS

71

Fast food catering booms for Britain's bakers.
Diggins, K.
British Baker 175 (47) 49, 51–52 (1978) [En]

Meat based products are advocated as being an area where bakers should expand their business in the fast food market. The use of pre-packed meat based products (i.e. pasties, steak and kidney pies, pork pies) to complement bakery goods already produced by the baker is discussed. SP

72

Disposable indispensible for the baker-caterer.
McLellan, V.
British Baker 175 (47) 37–38, 42, 44 (1978) [En]

Disposable catering products designed as an essential and specific aid for the fast food market are described. Products discussed include high density disposable plastics (e.g. high tensile polysulfone) for use in microwave ovens, paper disposables (cake boxes, gateaux trays, tablecloths, serviettes, etc.), disposable cutlery, plastics bags, foil and waxed wrapping, Styroglass glasses, tumblers and containers, and expanded polystyrene containers for keeping food hot or cold. SP

73

New food products utilizing dairy ingredients with emphasis on protein. [Lecture]
Mykleby, R.
XX International Dairy Congress, Conferences Conferences 52ST, 4pp. (1978) [En] [Dairy Res. Inc., 6300 North River Road, Rosemont, Illinois 60018, USA]

A survey is presented of processed or prepared protein-enriched foods in the USA, with emphasis on dairy proteins. The need for and problems of food regulations are discussed, with concern expressed for cost/benefit relationships in providing consumer protection. The hotel, restaurant and institutional foodservice field is identified as an opportunity area for food processors, and foods developed for microwave cookery will become popular. [See FSTA (1979) 11 5P883.] DMK

74

[School milk – an international point of view.]
Schulmilch – im internationalen Blickpunkt.
Hoche, -.
Österreichische Milchwirtschaft 33 (24) 462–464 (1978) [De]

This article includes a tabular presentation of school milk systems in use in 18 member countries of the International Dairy Federation. Data given for each country include: beginning of school milk promotion; types of school providing milk; age of pupils consuming milk and quantity consumed daily/pupil; packaging; whether the milk is available free or subsidized and the level of subsidy; % of pupils taking school milk; and milk products provided. FL

75

[Comparison of nutrient contents of school meals calculated from tables with those determined by analysis. Protein, lipids, vitamin B_1, Ca, Mg, and Fe.]
Astier-Dumas, M.; Prandini-Jarre, D.
Medecine et Nutrition 12 (3) 165–167 (1976) [Fr, en]
[Cent. de Recherches Foch, 4 Avenue de l'Observatoire, 75006 Paris, France]

10 samples of school meals were used in a comparative study on detn. of nutrient content by calculation on the basis of nutritional value tables vs. by analysis. Tables of results are given. Calculated and analytically-determined values agreed fairly well for protein in 3 samples, lipids in 1 sample, Ca in 4 samples, Mg in 5 samples, Fe in 2 samples, calories in 3 samples and for vitamin B_1 in no sample. In general, calculation on the basis of nutritional value tables underestimated levels of protein, vitamin B_1, Ca and Fe, and overestimated levels of lipids. AJDW

76

[A survey of food contamination by 3,4-benzpyrene. I. An improved and versatile method of determination. Application to complete institutional meals.]
Bories, G.; Tchimbakala, A.; Tchimbakala, E.
Annales de la Nutrition et de l'Alimentation 32 (4) 801–809 (1978) [11 ref. Fr, en] [INRA, Lab. de Recherches sur les Additifs Alimentaires, 180 Chemin de Tournefeuille, 31300 Toulouse, France]

A spectrofluorometric method is described for detn. of 3,4-benzpyrene in food and biological materials. Recording the emission spectrum at 400–450 nm allows reliable identification and detn. at 0.2 parts/billion with 85% recovery (coeff. of variation ± 17% and good reproducibility, with small samples (50 g, vs. 200–500 g for other methods) and in a relatively short time. Analysis of 11 complete canteen meals showed 1 meal with 1 μg/kg, 3 with 0.5, 6 with 0.2 and 1 with no detectable 3,4-benzpyrene. The quality of the spectrum is improved by using wavelengths of 379 or 360.2 nm for excitation; this eliminates quenching by interfering substances. RM

77

[Preparation of potato salad as a canteen problem.]
Die Herstellung von Kartoffelsalat als Problem der Grossküche.
Merrettig, H.
Ernährungs-Umschau 24 (1) B1–B5 (1977) [5 ref. De]
[v. Behringstrasse 1, 665 Homburg/Saar, Federal Repulic of Germany]

The technical difficulties and health dangers of bacterial proliferation due to attempts to extend household procedures of potato salad preparation to canteen scale are outlined. A suitable method for preparation of 1000 × 270-g portions of potato salad is described and presented in the form of diagrammatically illustrated flow-sheets. It involves a 2-day timetable dealing in parallel with preparation of (i) potatoes and (ii) marinade. On the 1st day, 260 kg of (i) are machine-peeled (eyes removed by hand), washed, filled into Gastronorm-Containers, cooked for 1 h in rectangular boilers, and the containers are kept in cold storage overnight; at the same time, (ii) is made by bringing to boil water with beef bones and condiments in a closed vessel by introduction of steam, then leaving overnight. On the 2nd day, vegetables are added to (ii) broth, the whole is brought to the boil, held at 100°C for 30 min, passed through a strainer, part being used for the day's soup, and part is mixed at 80°C with (i), the whole being kept at this temp. for 20 min while edible oil, vinegar, salt, chopped onion, parsley and mustard are added; machine-slicing and portioning for serving follow. The operational time is given as 15.4 man-h. (labour cost, DM 117.5) vs. 36 man-h. for conventional preparation (labour cost, DM 270). Itemized costs of materials are tabulated, overall cost of 1000 portions being DM 166.81. The hygienic advantages of the new procedure are stressed. SKK

78

A total quality control system for food production in hospitals. (In '32nd Annual Technical Conference Transactions', Chicago, May 8–10, 1978.) [Lecture]
Douglas, D. E.; Weatherly, S. H. (United States of America, American Society for Quality Control)
pp. 566–573 (1978) [3 ref. En] 161 W. Wisconsin Avenue, Milwaukee, Wisconsin, USA [Dep. of Ind. Eng., Univ. of Arkansas, Fayetteville, Arkansas 72701, USA]

A description of the jobs of quality control, for food production, as proposed for implementation is presented. The quality control system involves the following: new design control; incoming material control which includes designing forms for inspection of raw materials, checking frequency of inspections and keeping quality records for vendors; food production control which involves pre-meal evaluation and a patient food service survey (model quetionnaires for these 2 evaluations are illustrated); and special process studies. The food quality control organization is discussed and its structure illustrated. SP

79

Effect of preparation and service of food on nutrient value. [Review]
Erdman, J. W., Jr.
Food Technology 33 (2) 38, 40–41, 44–48 (1979) [58 ref. En] [Dep. of Food Sci., Univ. of Illinois, 567 Bevier Hall, Urbana, Illinois 61801, USA]

80

Food service operation design for nutrient retention in foods. [Review]
Livingston, G. E.; Chang, C. M.
Food Technology 33 (3) 32, 34–37, 42 (1979) [15 ref. En]
[Food Sci. Ass., 145 Palisade Street, Dobbs Ferry, New York 10522, USA]

Facilities to improve nutrient retention in foods in food service operations are outlined and areas in food service where nutrient losses occur are reviewed. Topics discussed are: nutrient losses occurring in the individual unit operations which make up the food service (purchasing, storage, preparation, cooking, holding and serving), and nutrient retention in frozen food systems and fresh food systems. SP

81

Food storage equipment and methods in catering.
[Lecture]
O'Connor, J.; Youngs, A.
IFST Proceedings 11 (3) 162–173 (1978) [18 ref. En]
[Dep. of Catering Management, Oxford Polytech., Oxford, UK]

Effects of storage of cooked food in catering operations on nutritional and eating quality are reviewed, including hot storage in particular, and ambient holding, chill storage, and cook-freeze systems. Emphasis throughout is on food rather than equipment. [See FSTA (1979) **11** 8G638]. DIH

82

[Microbiological step control with time-temperature measurements during production of ready-to-eat meals. I. Large-scale kitchen handling fresh foods.]
Mikrobiologische Stufenuntersuchung mit Zeit-Temperatur-Messungen bei der Herstellung von verzehrsfertigen Speisen. I. Mitteilung: Großküche mit Frischküchenbetrieb.
Schmidt-Lorenz, W.; Kaspar, H.; Stampfli, S.
Alimenta 17 (5) 119–122, 125–137 (1978) [52 ref. De, en]
[Inst. für Lebensmittelwissenschaft der ETH, Tannenstraße 1, CH-8092 Zürich, Switzerland]

In view of the inadequate existing hygiene control of collective food service systems, a more effective control by combined microbiological step control of each product and temp. measurement is suggested. The microbiological distribution and time-temp. profiles obtained allow assessment of the hygienic safety and the location of danger spots. Afterwards, only temp. control and occasional microbiological spot checks are needed for supervision of processing. For experimental proof of this suggestion, samples from the centre and the sides of 12 specially sensitive dishes (salads, desserts, meat dishes and soups) prepared in a large-scale kitchen with fresh food preparation were subjected to microbiological control and time-temp. detn. at ≤ 7 processing steps. At each step 14 groups of microorganisms were counted (total aerobes, Bacillus spores, B. cereus, sulphite-reducing Clostridia spores, yeasts, moulds, lactic acid bacteria, Lactobacilli, Pseudomonads, Enterococci, Enterobacteriaceae, faecal coliforms, micrococci, Staphylococcus aureus). Microbiological profiles (distribution, time-temp. conditions, pH) are shown graphically for 10 ready meals at processing stages corresponding to preparation technology. RM

83

[Microbiological quality of pudding-type desserts produced industrially and in restaurants and confectioneries in the Netherlands.]
Hartog, B. J.; Jansen, J. T.; Nooitgedagt, A. J.
Voedingsmiddelentechnologie 11 (26) 11–15 (1978)
[8 ref. Nl] [Keuringsdienst van Waren, Netherlands]

455 samples of dairy desserts (311 puddings, 61 Bavarian creams, 21 mousses, 34 vla-type custard products and 28 other desserts) were tested for total aerobic bacterial count, Enterobacteriaceae, Staphylococcus aureus, Bacillus cereus, yeasts and moulds. Of the total samples, 167 had been manufactured and packaged in factories using highly automated equipment; 49 had been produced in semi-industrial establishments using less sophisticated techniques; 177 had been produced in small-scale establishments (mostly confectionery establishments making puddings from boiled milk with starch or gelatin, sugar, flavourings and egg yolks, topped with whipped cream and fruit); and 62 had been prepared in catering establishments, which simply added the necessary ingredients to boiling milk and, after cooling, put the desserts in dishes without further packaging. Results were analysed in relation to the type of establishment. The level of microbiological contamination was lowest in the desserts produced in factories. In other establishments there was considerable room for improvement. The findings are to be used in the formulation of microbiological requirements for dairy desserts under Dutch food legislation. It is recognized that standards should be less stringent for small-scale establishments, which cannot reasonably be expected to achieve the same level of hygiene as factories. ADL

84

[Determination of degree of contamination of canteen meals with pesticide residues.]
Zimak, J.; Piechocka, J.; Cwiertniewska, E.; Wachnik, Z.
Roczniki Panstwowego Zakladu Higieny 29 (5) 491–498 (1978) [23 ref. Pl, ru, en] [Zaklad Badania Zywnosci i Przedmiotow Uzytku, PZH, Warsaw, Poland]

Normal meals served 5 × daily on weekdays and 4 × daily on holidays to children aged 7–14 yr by the kitchen of the Mother and Child Institute in Warsaw were examined during Feb. 1974–Feb. 1975, 7 samples, representing each day of the wk, being taken every month. Each day's meals were combined and blended. Mean monthly values are tabulated for contents of (i) γ-BHC, (ii) total DDT, (iii) carbaryl + propoxur and (iv) propoxur. Overall mean values (with mean values for months with highest and lowest incidences in parentheses) were, resp. (mg/daily diet): (i) 0.016 (0.023 for Nov.–March and 0.010 for April–Oct.); (ii) 0.080 (0.137 for Nov.–March and 0.032 for April–Oct.); (iii) 0.23 (0.34 for Aug.–Oct. and 0.08 for Dec.–Feb.); and (iv) 0.14 (0.21 for Aug.–Oct. and 0.05 for Dec.–Feb.). No relationship was found between diet composition and extent of contamination with organochlorine pesticides; but higher proportions of raw fruit and vegetables at the times of max. contamination with carbamates may have been connected. SKK

85

[Effect of filling weights on the sterilization time of canned foods for catering.]
Massini, R.; Pedrelli, T.; Miglioli, L.; Cassara, A.
Industria Conserve 53 (4) 277–287 (1978) [2 ref. It, en, de, fr] [Sta. Sperimentale per l'Ind. delle Conserve Alimentari, Parma, Italy]

A series of tests was carried out on sterilization of a variety of canned foods in catering packs, viz. 1 kg cans of potato soup (net wt. 720–840 g), 3 and 5 kg cans of tomato pulp (net wt. 2.4–2.65 and 4.14–4.34 kg), 3 kg cans of minestrone soup (net wt. 2.64–2.78 kg), 1 kg cans of shellfish ("vongole", net wt. 850 g, drained wt. 416, 535, 685), 1 and 3 kg cans of mushrooms (net wt. 790 and 2.6 kg, drained wt. 460–548 g and 1.9–2.17 kg), 2.5 kg cans of tripe (net wt. 2.0 kg, drained wt. 1.15–1.26 kg), 2.5 kg cans of peperonata (net wt. 1.8 kg, drained wt. 1.4 and 1.5 kg) and 1 kg cans of peeled tomatoes (net wt. 805–875 g). Heat penetration curves and the effects of net wt., drained wt. and head space on sterilization time (stationary or rotational) are shown graphically, demonstrating the effects of can filling and/or drained wt. on heat penetration at the centre of the cans. In many cases even slight overfilling prevented effective sterilization by standard procedures. Strict wt. control on the production line is advocated. RM

86

Panned entrees bite into 'scratch' market.
Wanzek, C. S.
Food Product Development 12 (6) 71–72 (1978) [En]
[Kraft Inc., Chicago, Illinois, USA]

Kraft introduced the first retortable, half-size steam table pan onto the test market in Nov., 1975. This new concept in convenience enabled the food to be taken from dry storage to oven and to serving line in the original container. Consideration is given to: the first prototype container; kitchen preparation of and customer response to 5 standard entrees; product line mix; market penetration (including case histories of a 600-bed hospital serving 2500 meals/day, University food service serving 11 000 meals/day, school district catering, and Las Vegas casino); package acceptance; the 106-oz container; container variations; future opportunities; and impact on food service operations. VJG

87

Institute of Food Science & Technology. Summer Symposium 1978. [Conference proceedings]
United Kingdom, Institute of Food Science & Technology
IFST Proceedings 11 (3) 126–173 (1978) [many ref. En]

Papers and abstracts of papers presented at the 1st Summer Symposium of the Institute at Exeter University, UK, 12–14 July 1978 are published. The abstracts are The storage of short shelf life products, by R. Spencer (p. 130); Quality aspects of frozen food in distribution, by L. P. Hall (pp. 139–140); and Storage in catering and domestic conditions: microbiological and contamination problems in storage, by S. Wood (pp. 160–161). A further 8 papers are abstracted individually and are in the FSTA author index under **United Kingdom,** Institute of Food Science & Technology [1978 Summer Symposium]. DIH

88

Retention of ascorbic acid, thiamine and folic acid in vegetables in mass feeding – the role of systems and equipment design. (In 'Food quality and nutrition' [see FSTA (1979) 11 8G639].) [Lecture]
Ryley, J.; Glew, G.
pp. 617–619 (1978) [5 ref. En] [Procter Dep. (Food Sci.), Catering Res. Unit., Univ. of Leeds, Leeds, UK]

Labile nutrients (e.g. ascorbic acid, thiamin, folic acid) are lost from vegetables during preparation and cooking, e.g. as a result of enzyme activity and leaching. In mass catering operations, considerable advances have been made in systems and equipment design which have led to improved retention of these nutrients. Some of these advances are discussed, particularly the utilization of chilled or frozen storage of cooked vegetables (in place of hot storage) and reheating of the chilled, frozen or thawed foods in convection or microwave ovens. Recent work has indicated that chilled storage (0–5°C) prior to reheating may result in greater nutrient losses than frozen storage (−18°C). JA

89

Time and temperature, microbiological and sensory quality of meat loaf in a commissary food-service system transporting heated food.
Cremer, M. L.; Chipley, J. R.
Journal of Food Science 44 (2) 317–321 (1979) [En]
[Ohio State Univ. & Ohio Agric. Res. & Development Cent., 1787 Neil Avenue, Columbus, Ohio 43210, USA]

A commissary food service system transporting heated food to service locations was examined to determine time and temp. conditions and microbiological and sensory quality of meat loaf. Phases in flow where wide ranges in time were found included baking, 51–72 min; heating for assembly, 30–105 min; baking to heating for assembly 20–66 h; and transportation, 12–83 min; for internal temp., in heating for assembly, 49–99°C; assembly, 54–99°C and service, 49–74°C. Mean scores for sensory characteristics were 6.2–7.2 (9-point scale). Total plate counts indicated that microbial quality of the raw meat was good (<120 000 microorganisms/g). After cooking, storage, and assembly, meat contained Bacillus sp., Clostridium sporogenes, C. perfringens, Staphylococcus aureus, S. epidermidis, Cladosporium sp., and Penicillium sp. Although the numbers of these microorganisms were below those levels considered to be dangerous to the health of consumers, nevertheless, these results, coupled with findings of variable time and temp., point to the potential for public health hazards if food is mishandled in systems of this type. IFT

90

Hazard analysis and control of roast beef preparation in foodservice establishments.
Bryan, F. L.; McKinley, T. W.
Journal of Food Protection 42 (1) 4–18 (1979) [9 ref. En] [Cent. for Disease Control, Dep. of Health, Education & Welfare, Atlanta, Georgia 30333, USA]

Roast beef preparation practices were examined in 8 food service establishments for the likelihood of contamination and the possibilities of survival or growth during each step of the operations. Clostridium perfringens was isolated from raw beef, equipment, and cooked beef. Staphylococcus aureus was isolated from raw beef. equipment, workers' hands, and cooked beef. Salmonellae were isolated from neither meat nor equipment. Numerous opportunities were observed for contamination of cooked beef during operations in most of the establishments. No opportunities for multiplication of foodborne disease bacteria were observed during thawing of frozen beef. From recorded time-temp. data, it was calculated that vegetative foodborne pathogens could survive in 76% of the geometric centres and on 5% of the surfaces of beef during cooking. Survival of these organisms could occur in 36% of the geometric centres and on 11% of the surfaces of the cooked beef during post-oven temp. rise periods. These organisms could have survived in 25% of the geometric centres and on 33% of the surfaces of the cookd roasts during hot holding; they could have multiplied on 25% and 27%, resp. During cooling, the potential for multiplication of vegetative cells of foodborne pathogens existed in 83% of the geometric centres and 79% of the surfaces of the roasts. During reheating, these organisms would have survived in 71% of the geometric centres and on 13% of the surfaces of the roasts. Recommendations are given for hot holding, cooling, and reheating so as to minimize microbiological problems. AS

91

[Electrical heating equipment for communal feeding establishments. General technical requirements.]
Union of Soviet Socialist Republics, Gosudarstvennyi Komitet Standartov
Soviet Standard **GOST 23067-78, 19pp. (1978) [Ru]**

92

[Electrical equipment for catering facilities. Safety requirements.]
France, Association Francaise de Normalisation (AFNOR)
French Standard **NF C 79-500, 84pp. (1978) [Fr]**

93

Nutritious menu design for restaurant operations.
Appledorf, H.
Food Technology 33 (3) 38-42 (1979) [6 ref. En] [Dep. of Food Sci. & Human Nutr., Inst. of Food & Agric. Sci., Univ. of Florida, Gainesville, Florida 32611, USA]

Topics discussed include: nutritional consumerism; changing food habits; technological problems; junk food controversy; nutritional criteria; designing menus for nutritional needs; nutritional parameters and nutritional design; and consumer acceptance and education. SP

94

[Computer-controlled studies for the hygienic training of workers in food stores and communal feeding establishments.]
Loranskii, D. N.; Strugatskaya, L. E.; Gavrilenko, E. V.; Morozov, A. A.; Press, R. S.; Buyanova, I. E.
Gigiena i Sanitariya No. 3, 35-38 (1979) [3 ref. Ru] [Tsentral'nyi Nauchno-issled. Inst. Sanit. Prosveshcheniya Min. Zdravookhraneniya SSSR, Moscow, USSR]

95

Refrigeration in railway catering cars.
Batchelor, G. H.
Refrigeration and Air Conditioning 81 (968) 32, 34, 36, 39, 42-44, 46, 48, 49-52 (1978) [En]

Refrigerators and the design of the associated installation used in railway catering cars, especially the high speed trains, are examined in detail. The design of individual cabinets is described, taking into account special sizes due to limited space, serviceable life expectancy of the cabinet (which should be in accordance with the vehicle life (approx. 30 yr)) and intensive use; cabinet evaporation loads to maintain the required cabinet temp. taking into account catering car temp. (100°F), total extraction rates, compressor selection taking into account overnight storage of food when the train auxilliary power (3-phase AC) is absent, the condensor, compressor motor power, heat pressure control, and capacity controls, are also described. The complete condensing unit performance is outlined with the aid of a chart, and the refrigeration cycle, analysis with hot gas by-pass, and the desuperheating thermostatic expansion value described. SP

96

[Air-tight container for food.]
Vulliez, B.; Vulliez, P.
French Patent Application 2 391 118 (1978) [Fr]

Tub-shaped food containers made of deformable plastics material have a rim which curves over on the outside. A lid is provided having a flat central well and a rim which curves upwards and outwards to correspond exactly to the rim on the container. Hollow projections are provided on the rim, pressure on which expels all air between the rim of the lid and that of the container, forming an air-tight seal. A projection is provided on the well of the lid to enable the lid to be pulled off when necessary. The object is to provide a container for transport and conservation of food by caterers. W&Co

97

[Relation between quality and price of meals in institutional feeding.]
Aznar, B.
Cahiers de Nutrition et de Dietetique 13 (3) 195-197 (1978) [Fr] [71 Avenue Victor-Hugo, 75116, Paris, France]

98

Menu item forecasting systems in hospital food service.
O'Connor Cullen, K.; Hoover, L. W.; Moore, A. N.
Journal of the American Dietetic Association 73 (6) 640-646 (1978) [10 ref. En] [Med. Cent., Univ. of Missouri-Columbia, Missouri, USA]

The efficiency of 2 - and 3-echelon menu item forecasting systems was compared. The 3 echelons were: (i) forecasting a patient meal census, (ii) estimation of diet category census, and (iii) estimation of menu item demand. In the 2-echelon system (ii) was eliminated. The 2 systems were compared in terms of dollars of forecasting error by assigning cost-penalty functions to over- and underestimation. The 2-echelon system using adaptive exponential smoothing is recommended as the preferred technique. The forecast error costs were lower and the method is the least complex. VJG

99

[The place of soy proteins on the French market.] (In 'Proceedings of the 13th World Congress. Symposium 9' [see FSTA (1979) 11 9G694].) [Lecture]
Housset, C.
pp. 83–88 (1976) [Fr] [Groupe Unipol, Paris, France]

Soy protein has nutritional and economic advantages and is an important food in some countries, but psychological aspects are vital in France, where meals are an institution (financially 35% of the family budget) and follow a traditional ritual based on meat as the pivot; soy is likely to be an unwelcome rival to meat. However, consumption of meals outside the home is increasing and institutional restaurants (hospitals, schools, universities, industrial canteens) offer the best entry point for the first essential task of supplying detailed information. Institutional restaurants have a modern image and can employ skilled managers, dieticians and chefs to give good presentation within a strict budget, while many consumers demand more information on the constituents of foods. An industrial organization [see author address] has developed a 3-stage programme for imparting information. In the 1st stage representatives of consumer organizations are received at the soy suppliers premises, given all possible information, with discussions and demonstrations completed by consumption of a soy-based meal (with normal meals also available). Visitors may be convinced intellectually but the final palate verdict is indispensable. The 2nd stage repeats the general process in a restaurant for managers and staffs, with demonstration meals. Here the major task is usually to convince senior chefs, who generally oppose all new methods e.g. past experience with frozen foods. The 3rd stage is discussion/meal sampling for the general public. Problems discussed include surprising ignorance remaining among adults on the role of proteins, but with some dishes the taste is rated better with soy than 100% meat, which creates immediate interest. 2 basic essentials throughout are information and consumption of a meal. ELC

100

[Quality of meals in institutions. Effects of distribution on the organoleptic properties of boiled potatoes.] [Lecture]
Lassche, J. B.; Gemert, L. J. van; Fielliettaz Goethart, R. L. de
Voedingsmiddelentechnologie 11 (41) 12–18 (1978) [12 ref. Nl] [Afdeling Algemene Tech., CIVO-TNO, Zeist, Netherlands]

Studies were conducted on deterioration of the organoleptic properties of boiled potatoes of the var. Bintje and Eigenheimer during holding at 60° or 80°C for ≤2.5 h, or at 4°C for ≤3 days. Organoleptic properties (flavour, aroma, texture, appearance) were evaluated by a trained taste panel or by consumers. Graphs and block diagrams of results are given. The results show that 'warm-held' flavour and aroma increased and 'potato' flavour and aroma decreased with increasing holding time and severity of holding conditions. Colour darkened during holding. Effects on texture and appearance were smaller. With cold-storage, Eigenheimer gave better quality retention than Bintje. It is recommended that the duration of warm holding of boiled potatoes should be <1.5 h. [See FSTA (1979) 11 9G688.] AJDW

101

Eggs – an asset on the menu.
Anon.
Catering and Hotel Management 51 (3) 8–9 (1979) [En]

The catering usage of shell eggs is discussed, with regard to the versatility of eggs (on their own, as part of a meal or as ingredients in a prepared dish). Buying for quality and storage of eggs are also briefly described. SP

102

Alternatives to white fish favourites.
Anon.
Catering and Hotel Management 51 (3) 25 (1979) [En]

Alternatives to white fish favourites in catering/food outlets are discussed and include coley or bream for cod, and whiting or hake for haddock. Methods of processing these fish and presenting them to the consumer are briefly described and include drum freezing instead of blast freezing to retain moisture and flavour and to give a smoother texture, and production of coley fillets and unbreaded fish so that the consumer can see the quality of the flesh. SP

103

[Kitchen equipment. Electrical safety requirements.]
Spain, Instituto Nacional de Racionalizacion y Normalizacion
Spanish Standard UNE 20-405-78, 9pp. (1978) [Es]

104

[Examination of hygiene and sanitary inadequacies in hotel kitchen facilities.]
Erceg, J.
Hrana i Ishrana 19 (9/10) 476–478 (1978) [8 ref. Sh, en] [Sekretarijat za Narodno Zdravlje i Socijalnu Zastitu SR Hrvatske, Zagreb, Yugoslavia]

The hygiene of 63 hotel kitchens and associated facilities in Croatia was evaluated in 1976–1977. Inadequacies are discussed. The main hygiene defects recorded were: poor rotation of foods and raw materials on cold stores (10.3%); inadequate personal hygiene (7.8%); and poor organization of food preparation, i.e. handling of prepared meals in close proximity to raw materials (6.0%). IN

105

Operating dishwashing section including dishwashing machine.
Anon.

Schiff und Hafen 29 (11) 1035 (1977) [En]

Steps in the dishwashing procedure of large scale households, e.g. ships, considered are: transport of soiled dishes into the washing area; sorting-out, removal of the leftovers, stacking; rinsing with hand shower; feeding into the machine; dishwashing machine – pre-rinse, power wash, final rinse, drying; sorting out the clean dishes; and storage. The Metos Master B 210 dishwashing machine is described, and a plan of the main scullery in a passenger ship is presented. VJG

106

Improved food service for better nutrition.

Chakravarthy, B. K.

Indian Journal of Nutrition and Dietetics 15 (9) 317-320 (1978) [2 ref. En] [Dep. of Nutr., Inst. of Catering Tech. & Appl. Nutr., Calcutta, West Bengal, India]

The role of food service in better nutrition is discussed briefly under the following headings; care of food; construction and maintenance of kitchen, kitchen equipment and sanitary appliances; personnel and their training; and aspects needing more emphasis. CFTRI

107

[Experience with low-calorie meals in a works canteen.]

Ginsbourger, C.

Cahiers de Nutrition et de Dietetique 13 (3) 215-217 (1978) [Fr]

Observations are recorded of eating habits in an industrial canteen providing about 500 self-service mid-day meals/day to mainly sedentary workers. Some regular customers consumed large meals which included pork, meats in gravy, fried foods and pastries so that 40% of their calorie intake was derived from lipids; 20% were probably overweight. Others with dietary obsessions omitted the main course but consumed extra helpings of entrees or desserts with high contents of fat or glucides. An offer was made to provide menus which would correct frequent dietary errors, be less rich in calories but still remain inviting. A preliminary group of customers compared some specimen menus with conventional steak or ham with salad. These were then introduced under the special title of 'health chain'. The menus followed the normal pattern of entree, main dish, cheese or yoghurt or fruit, were properly balanced but contained 50% less calories than standard meals. Examples are given. The results were achieved mainly by reducing the amount of fat used in cooking the main dish, and using low-fat cheese with starch to replace cream in sauces. Dishes were specially marked on service lines and sold at standard prices. Over 5 yr, 15-18% of regular customers (75% women) have adopted the health chain menus (disclosed on request). Motivations were: 79% control of wt. without feeling hungry; 40% because the dish was specially liked; 30% for digestive reasons; and 25% to feel 'less heavy' in the afternoon. 81% considered that eating quality was good to very good and 15% 'average'. ELC

108

[Institutional feeding in an industrial environment.]

Eustache, D.

Cahiers de Nutrition et de Dietetique 13 (3) 211-214 (1978) [Fr]

A large industrial organization in France provides 23 000 self-service meals/day at 5 restaurants, serving workers of varied nationalities and tastes with shifts spread over the 24 h. Distribution of prepared meals from a central unit has been abandoned in favour of individual cooking/preparation at each restaurant. The meal programme (with a wide range of choice) is organized 2 wk in advance of the particular day and follows an 8 wk rota of menus to provide wide variety. On any one day the same choice of meals is available in all restaurants. Computer analysis (fed from cashiers' desks) provides accurate information on the categories of meals served, choice of food at various periods of the working day, seasons of the yr etc. Tabulated data are presented, with examples of menu variety provided. Special attention is given to detailed bacteriological control and reduction of food handling to a min., with purchase of supplies direct from primary sources without intermediaries. Future collective feeding is likely to rely increasingly on prepared foods of high bacteriological standard from large specialized suppliers. Examples are: probable disappearance of cutting-up of meat in restaurants and purchase of vacuum-packed prepared cuts from large butcheries; fresh pastry goods distributed in refrigerated vehicles; increased use of frozen vegetables (although for frozen fried potatoes reheating costs are high); dried vegetables have storage advantages but in practice reconstitution is difficult; prepared complete frozen meals are useful only for menus for which demand is small and irregular and may limit the range of consumer choice. ELC

109

[Nutritional value of frozen meals in institutional catering.]

Testolin, G.; Cantoni, C.; Bellisario, V.; Ciappellano, S.; Mari, M.; Pagliazzo, S.

Industrie Alimentari 18 (2) 109-115 (1979) [43 ref. It, en] [Istituto di Ispezione degli Alimenti di Origine Anim., Fac. di Med. Vet., Univ. Milan, Italy]

Studies were conducted on changes in the nutritional value of foods (including pasta and rice dishes, meat, chicken dishes, peas and potatoes) as a result of freezing, cold storage and reheating. Tables and graphs are given showing the I value, peroxide value, UV extinction (at 230 and 270 nm), fat viscosity, in-vitro digestibility and thiamin and riboflavin contents of the raw materials, cooked samples, and frozen samples cold-stored for 15 or 60 days, with or without reheating. Tables and graphs of results are given. The results are discussed in detail. Oxidative changes attributable to freezing, frozen storage and reheating were small. Viscosity of fat was variable, but tended to be decreased by reheating. In-vitro digestibility by lipase was appreciably reduced by frozen storage and reheating; digestibility by proteolytic enzymes was only slightly reduced. Significant losses of thiamin and riboflavin were observed; these differed between products. AJDW

110

[Nutritional value of refrigerated meals in institutional catering.]
Testolin, G.; Cantoni, C.; Ciappellano, S.; Bellisario, V.; Rossi, V.; Baserga, D.
Industrie Alimentari 18 (3) 198–204 (1979) [42 ref. It, en] [Istituto di Ispezione degli Alimenti di Origine Anim., Fac. di Med. Vet., Univ. degli Studi di Milano, Milan, Italy]

Studies on effects of refrigerated storage (at +2°C) on the nutritional value of precooked foods (including pasta, rice, meat, and chicken products) are described. Tables and graphs of data are given (including I value, peroxide value, UV extinction value, and viscosity of extracted fat, in-vitro digestibility, and thiamin and riboflavin contents) for the raw materials, cooked products, and samples cold-stored for 3 or 5 days, with or without reheating. Refrigerated storage tended to result in a moderate increase in degree of oxidation of the fat in the products studied. In-vitro digestibility with pancreatic lipase was decreased by refrigerated storage and reheating; little effect on digestibility by proteolytic enzymes was observed. Considerable decreases in riboflavin and thiamin concn., attributable to cooking, cold storage and reheating, were observed for some products. AJDW

111

[Use of agar slides for rapid diagnosis and hygienic control in commercial feeding.]
Richard, N.; Mossel, D. A. A.
Cahiers de Nutrition et de Dietetique 14 (1) 65–70 (1979) [34 ref. Fr, en] [Lab. Interregional de la Repression des Fraudes, Montpellier, France]

For checking the microbiological quality of meals served in restaurants and other communal feeding establishments, the authors recommend use of immersion "dip" slides, as used by general practitioners for several yr for analysis of urine. Slides covered on 1 side with violet red bile glucose agar (for Enterobacteriaceae) and on the other with a modified Vogel-Johnson agar (for Staphylococcus aureus) have been used successfully for 2 yr. The name "agar immersion, plating and contact" (AIPC) slides is suggested for them. [From En summ.] HBr

112

[Microbiology of foods] Mikrobiologia zywnosci. [Book]
Burbianka, M.; Ploszka, A.
507pp. (1977) [many ref. Pl] Warsaw, Poland; Panstwowy Zaklad Wydawnictw Lekarskich. Price 180zl

Groups of microorganisms significant from the point of view of food evaluation are presented, as well as their effect on humans, isolation and detn. methods. Particular attention is paid to products used for communal feeding. Chapters are: General review (pp. 11–33); Investigation of the presence of individual groups of bacteria (pp. 34–207); Analysis of individual food products (pp. 208–331); Bacteriological control of communal feeding (pp. 332–400); and Food sampling for microbiological analysis (pp. 401–495). STI

113

Food poisoning and salmonella infections in England and Wales, 1973–75.
Vernon, E.
Public Health, UK 91 (5) 225–235 (1977) [29 ref. En] [Epidemiological Res. Lab., Public Health Lab. Service, Colindale Avenue, London NW9 5HT, UK]

An analysis of cases of bacterial food poisoning and salmonella infections reported to the Public Health Laboratory Service during the 3 yr 1973 to 1975 is presented. 21 428 of the 29 108 cases in which the causal organism was identified were due to salmonellas. Clostridium welchii, Staphylococcus aureus, Bacillus cereus, Vibrio parahaemolyticus and Escherichia coli were also incriminated in outbreaks. In 1973 and 1974 the number of cases was slightly above the average for the previous 10 yr; but in 1975 there was an increase of >50% above the average, mainly in salmonella infections. Salmonella infections contributed to the deaths of 131 persons, C. welchii to that of 2 and Staph. aureus to that of one. Many of the patients were already seriously ill and most were elderly, but there were 8 deaths in children under one year of age. 632 general outbreaks were recorded. Of these, 296 were in hospitals, schools and other institutions and 201 were associated with restaurants, hotels, receptions and parties. This distribution may in part be due to better reporting of institutional outbreaks. Of the 333 outbreaks in which the type of food was identified, 39% were associated with meat, 31% with poultry and 30% with other foods. AS

114

Microbiological hazards of airline catering.
Munce, B. A.
Food Technology in Australia 30 (12) 470–476 (1978) [64 ref. En] [Med. Services, Qantas Airways Ltd., Med. Cent., Qantas Jet Base, Mascot, NSW 2020, Australia]

Data on food poisoning outbreaks are tabulated for: first recorded food poisoning outbreaks on Australian aircraft; world-wide aircraft food poisoning outbreaks (1967–1976); and most recent aircraft food poisoning outbreaks on flights into Australia (1975–1977). Data include the flight number, number of persons affected, food implicated, and organism implicated. The potential size of the problem and the reasons for its existence are discussed. Factors contributing to food-borne disease in the US are considered. Potential problem areas considered are: the need to uplift from locations outside Australia, often from areas where food and water-borne diseases are endemic, the fact that airline employees who handle the food are likely to enjoy holidays outside the country and return with gastrointestinal upsets; and the nature of the foodstuffs prepared i.e. great emphasis being placed on presentation and garnishing. International efforts and recommendations to control airline catering are discussed. VJG

115

Relative risk ratios of foodborne illness in foodservice establishments: an aid in deployment of environmental health manpower.
Kaplan, O. B.; El-Ahraf, A.
Journal of Food Protection 42 (5) 446–447 (1979)
[3 ref. En] [Dep. of Environmental Health Service, 1111 East Mill Street, San Bernardino, California 92415, USA]

By using 'relative risk ratios' (% outbreaks/% total establishments), various types of food service establishments were shown to pose significantly different risks of food poisoning. This implies that there is no solid basis for the traditional belief that all food service establishments must be inspected a given number of times. AS

116

Vibrio outbreaks from airline food and water.
Desmarchelier, P.
Food Technology in Australia 30 (12) 477–481 (1978)
[16 ref. En] [School of Public Health & Tropical Med., Univ. of Sydney, NSW 2006, Australia]

4 outbreaks of food poisoning, involving large numbers of people, have occurred on international flights to Australia, since 1972. A Vibrio spp. has been considered responsible for each of these outbreaks. The survival and control of Vibrio spp. in food and water and their significance in such food poisoning outbreaks are discussed with reference to these recent outbreaks. Problems peculiar to long range air flight catering are considered and the need for care in the selection of menus and control of handling of these foods is stressed. VJG

117

Trends in packaging for the catering market – a food manufacturers perspective.
Thorogood, L.
Food Technology in Australia 30 (9) 360–363 (1978)
[En] [Edgell – Div. of Petersville Ltd., PO Box 99, Crows Nest, NSW 2065, Australia]

Scope of the catering market, its rate of growth and the per caput consumption of the major food items in Australia are briefly discussed. Consideration is given to the main categories of packaging materials used in the catering market namely, flexible packaging, paper board, tinplate, Al foil and rigid plastics materials. VJG

118

HACCP models for quality control of entree production in hospital foodservice systems.
I. Development of Hazard Analysis Critical Control Point models.
Bobeng, B. J.; David, B. D.
Journal of the American Dietetic Association 73 (5) 524–529 (1978) [17 ref. En] [Dep. of Food Sci., Coll. of Agric. & Life Sci., Univ. of Madison-Wisconsin, Madison, Wisconsin, USA]

HACCP quality control models were developed for entrees produced on-premise in 3 hospital food service systems: conventional, cook/chill, and cook/freeze. The models were developed in 3 phases: identification of control points (procurement, preparation and heating); identification of critical control points i.e. points in a process that eliminate or reduce a microbiological hazard (ingredient control and storage, equipment sanitation, personnel sanitation, time-temp. relationship); and the establishment of monitors for control. VJG

119

HACCP models for quality control of entree production in hospital foodservice systems.
II. Quality assessment of beef loaves utilizing HACCP models.
Bobeng, B. J.; David, B. D.
Journal of the American Dietetic Association 73 (5) 530–535 (1978) [13 ref. En] [Dep. of Food Sci., Coll. of Agric. & Food Sci., Univ. of Madison-Wisconsin, Madison, Wisconsin, USA]

HACCP models were utilized to control production of beef loaves in laboratory-simulated (i) conventional, (ii) cook/chill and (iii) cook/freeze hospital foodservice systems. Attributes measured were wt. (yield) and microbiological, nutritional and sensory qualities (colour of crust, colour of meat, uniformity of colour, texture, juiciness and flavour). The only significant difference in the beef loaves among systems was sensory quality. Scores for both colour of meat and uniformity of colour were significantly different ($P < 0.05$). Among systems (ii) and (iii) loaves were not significantly different from each other, but both were significantly different from (i) loaves. The meat was darker and more streaked or non-uniform than for beef loaves in the conventional system. Differences in scores for flavour among systems were highly significant ($P < 0.01$). Rancid and warmed-over flavour were reported for (ii) and (iii) samples. Scores for overall acceptability of beef loaves in the (i) system were significantly greater ($P < 0.05$) than for those of the (ii) and (iii) systems. The HACCP models were effective quality control tools for entree production; implementation of the HACCP system is recommended for hospital food services. [See preceding abstr.] VJG

120

School milk schemes.
Rowling, J. R. (International Dairy Federation)
Bulletin, International Dairy Federation No. 111, 23pp. (1979) [En]

This report is compiled from information collected from 23 countries, of which 16 are members of the International Milk Promotion Group. The nutritional benefits of school milk schemes are discussed and various other aspects mentioned, and figures are given for the % of sales accounted for by school milk. Detailed information is then given for each country on: start of scheme, type of schools, ages of recipients and quantity consumed, packaging subsidies, extent of uptake, distribution, products available, limitations, and future prospects. JMa

121

Plate waste of bacon cured with and without sodium nitrite.
Williams, J. C.; Greene, B. E.

Journal of Food Science 44 (4) 1260, 1262 (1979) [14 ref. En] [Dep. of Foods & Nutr., Univ. of Georgia, Athens, Georgia 30602, USA]

Bacon cured with and without $NaNO_2$ was served in a student dining hall as part of the regular breakfast menu selection. Plate waste was measured. Mean % plate waste was 13.7% and 13.4%, resp., for bacon cured with and without $NaNO_2$. The presence or absence of $NaNO_2$ did not appear to be a determinant of the quantity of bacon consumed by these institutional food service facility patrons. IFT

122

Historical development of microbiological food standards in Australia.
Smith, S. W. C.
Food Technology in Australia 30 (7) 255–259 (1978) [En] [Commonwealth Dep. of Health, PO Box 100, Woden ACT 2606, Australia]

A description is given of the procedures followed by the subsidiary expert committees of the National Health and Medical Research Council in arriving at microbiological criteria which protect public health and ensure good manufacturing practice. Particular reference is made to a survey conducted in May 1974 on the microbiological status of ready-to-eat 'take-away' foods. The survey was designed to determine which foods in this category presented a potential hazard to public health and to establish microbiological criteria or codes of hygienic practice where necessary. VJG

123

[Hygienic aspects of a newly introduced method of institutional catering.] Berücksichtigung hygienischer Aspekte bei der Einführung eines neuen Verfahrens in die Gemeinschaftsverpflegung.
Hoppe, P.-P.; Levetzow, R.
Fleischwirtschaft 59 (5) 599–601, 705 (1979) [De, en] [Inst. für Veterinärmed. (Robert von Ostertag-Inst.), 1000 Berlin 33]

A new catering method was investigated. Meals are cooked in a central kitchen, filled into 1-l. 'gastronorm' containers at 80°C to a height of 75–80 mm, covered with a lid, quickly cooled in a shock chiller to about 10°C, and held for ≤ 3 days in a cold store at 2°C. The meals are reheated at 220–240°C for 45–60 min to 70–80°C in relay kitchens attached to decentralized canteens. They are usually kept hot for 1 h. Continuous temp. detn. during shock chilling (time/temp. profile) showed core temp. of 20–30°C after 90 min chilling (after 170 min in highly viscous or solid foods). In model experiments, meals inoculated with sporeforming aerobes and other Gram-positive organisms, and samples from current production subjected to bacteriological examination at various stages in the production chain, were found to contain 10^2–10^3 bacteria/g before reheating. No bacterial growth was observed and only isolated viable organisms were present after reheating (mainly sporeforming aerobes). Except for 1 case of chicken in curry sauce containing coagulase-negative staphylococci (presumably from spices), no potential food poisoning organisms were found. Quicker shock-chilling (e.g. by reducing the height of food in containers), careful cleaning and disinfection of all containers and utensils, and regular bacteriological control of production are recommended. RM

124

Policies and programs for agriculture – Atlantic Provinces.
Canada, Government of Canada
Publication, Agriculture Canada No. 78/8, 104pp. (1978) [En]

This publication is one of a series compiled by Agriculture Canada to make available essential information about federal and provincial government policies and programmes affecting agriculture; including: meat inspection; maple syrup production; cream hauling assistance; school milk; improvement in animal breeding stock; and improvement in fruit/vegetable growing, storage and transportation. SP

125

Microbiological studies on frozen convenience foods. (In 'Proceedings of the First Indian Convention of Food Scientists and Technologists' [see FSTA (1979) **11** 12A871].) [Lecture]
Leela, R. K.; Mohan, M. S.; Thangamani; Eapan, K. C.; Sankaran, R.
pp. 57–58, No. 5.10 (1979) [En] [Defence Food Res. Lab., Mysore, India]

Cooked potato, fish and mutton curries packaged in paper/foil pouches were frozen at −30°C for 1–1.5 h and then stored at +5°C for up to 14 days or at −5 or −18°C for up to 6 months; some samples were allowed to thaw at 40°C for 1 or 2 h and then stored for up to 14 days. Samples obtained during storage and also samples obtained during preparation of the curries were microbiologically examined for, e.g. total plate count, streptococci, staphylococci, clostridia, yeasts, moulds, coliforms, salmonellae. Yeasts and moulds were absent from the stored curries but a wide variety of bacteria was present, even after freezing and storage. Bacterial numbers decreased during storage at −5°C and −18°C. In samples allowed to thaw, saprophytic bacteria (e.g. Pseudomonas, Bacillus) overgrew any pathogens. JA

126

Consumer attitudes relative to product and service attributes of fast food restaurants in the Greater Lafayette, Indiana area.
Downey, J. F.
Dissertation Abstracts International, B 39 (2) 680–681: Order no. 78-13050, 266pp. (1978) [En] [Purdue Univ., West Lafayette, Indiana 47907, USA]

A study on attitudes of consumers to fast food restaurants is described; the consumer population studied comprised 510 randomly sampled patrons from 7 fast food restaurants in Lafayette, Indiana.
9 subjective attributes (food quality, security, decor and atmosphere, speed of service, courtesy and friendliness of employees, reputation, popularity, product or service similarity and nutrition) and 6 objective attributes (hours of operation, location, variety of menu, adequate

parking, specials offered, and price) were used in the survey. All these variables were of significance; none could be distinguished as more important than the others. The 7 fast food restaurants had different combinations of attributes; 3 were more popular than the other 4. The individuals in the survey generally visited fast food restaurants 1–4 times/wk, usually in the lunch hour. AJDW

127

Carnation introduces 'Winning Line' of frozen potato products.

Anon.

Quick Frozen Foods 40 (8) 35–37 (1978) [En]

A description is given of 14 var. of frozen processed potatoes, from French fries to specialty potato products which have been introduced to the food service market under the 'Carnation' trademark. These include: 10 var. of French fries (6 different thicknesses of crinkle cuts and straight cuts processed in vegetable oil; 2 styles of French fries processed in animal-vegetable oil; oven crinkle fries; and steam fries); 2 styles of shredded hash browns; and 2 styles of formed, shredded potato specialties. VJG

128

Processing techniques: the winning combination.

Anon.

Quick Frozen Foods 40 (8) 37–38, 40, 43–45 (1978) [En]

Carnation is one of the largest US processors of frozen potatoes for the food service market. The 3 Washington plants and 1 Idaho plant process 4 million lb/day of potatoes. The processing cycle begins at the peeling tanks, where Russet Burbank potatoes are immersed in a hot caustic soda solution and thoroughly washed by high pressure water jets. The potatoes are then visually inspected for defects, all having imperfections are removed from the line, and any remaining skin, unpeeled eyes, bruises and other blemishes are manually removed. Special high-speed Urschel cutters divide them into strips as long as 8 in. Shaker-sizers remove thin slivers, short pieces and chips after the cutting operation. After sizing, employees remove strips having discoloration and other defects. The strips then pass through a triple-stage water blanch to inactivate surface enzymes and neutralize potato sugar. The strips are hot-air dried before the double-stage frying operation. The fried potato strips pass over a vibrating belt to remove excess oil, are then conveyed on wire mesh to the tunnel to be blast frozen at −40°F, then move through another sizing operation, before passing to the packaging line to be weighed and fed automatically into packages. VJG

129

Health laws and regulations – German Democratic Republic.

World Health Organization

International Digest of Health Legislation 29 (1) 72–83 (1978) [En] [Geneva, Switzerland]

A selection of German Democratic Republic health laws and regulations is presented including the following which relates to food hygiene: Order of 25 Oct. 1976, repeals certain earlier provisions, and prescribes that all sales establishments, retail production establishments, catering establishments, warehouses and establishments in the food sector are required to keep a standard inspection register. All observations made during official inspections, as well as the measures necessary to eliminate any shortcomings, are recorded in the inspection register. VJG

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FAB 24

CATERING INDUSTRY

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INTRODUCTION

Food Annotated Bibliographies (FABs) are collections of abstracts on specific topics in food science and technology. The topics are chosen by the staff of the International Food Information Service as being of particular interest or importance. The topics normally interest individual workers, who may not require the full information provided in Food Science and Technology Abstracts, from which the abstracts for FABs are taken. The size and the cost of the FABs are controlled as much as possible with the interests of individual workers in mind.

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Some of the larger FABs have been divided into sections to facilitate use. FAB 47 also has a subject and author index provided.

Copies of all original articles referred to in the abstracts may be bought (or occasionally borrowed) from the International Food Information Service. A form for ordering these is provided at the end of this FAB.

Coverage of the subject has been restricted to that of Food Science and Technology Abstracts, which covers over 1200 of the important food journals, patents from 20 countries and books published world-wide. Every effort is made to include all significant references, but editorial discretion is used on the many articles of borderline interest. If the reader particularl needs an exhaustive search of the subject, we will be pleased to provide any other references that we have available. We would, in any case, encourage readers to write or telephone us with any comments or queries that they may have.

H. BROOKES

EDITOR

1

[Bacteriological quality of cold snacks in the communal feeding network.]

Buloshnik, Z. N.; Ryabtseva, V. I.; Petyur, V. G.; Kireeva, N. G.

Gigiena i Sanitariya No. 6, 78–79 (1979) [3 ref. Ru] [Voroshilovgradskaya Gorodskaya Sanepidstantsiya, Voroshilovgrad, USSR]

During 1975–1977, cold snacks (individual components and final dishes) from 5 restaurants in Voroshilograd (USSR) were analysed bacteriologically. 18–35% of the salads tested (depending on stage of production) failed to meet the existing bacteriological standards. Of the overall 439 samples tested, 259 (63%) had a coliform titre $>10^{-2}$, 180 (37%) coliform titre $<10^{-2}$, and 27 (6.2%) had a pathogenic microflora. A coli titre of 10^{-2} is recommended as giving an indication of satisfactory bacteriological quality for cold snacks. HBr

2

[Rapid method for bacteriological analysis of swabs from items from the environment.]

Kartsev, V. V.; Karaseva, L. I.; Ozerets, A. V.; Makarova, G. V.; Tsikarishvili, T. A.; Medvedeva, I. N.

Gigiena i Sanitariya No. 6, 74–75 (1979) [1 ref. Ru]

The current Soviet regulations stipulate use of the Kessler medium for bacteriological analysis. Comparative tests carried out on swabs from (unnamed) items from the food industry, communal feeding establishments, hospitals and similar places showed that the Kod medium [Karshtanova, V. M. (1973), Indikatsiya patogennykh bakterii v moloke i molochnykh produktakh; Moscow] gave virtually identical results, but enabled the test time to be reduced from 72 to 16–18 h, as well as being simpler to use. HBr

3

Pelletised freezing has specialist applications.

Löndahl, G.; Aström, S.

Frozen Foods 32 (3) 39–40 (1979) [En] [Frigoscandia AB, Helsingborg, Sweden]

The PelloFreeze pelletized freezing method is described. The plant comprises a lower belt with crosswise corrugations onto which the liquid or paste-like product is deposited and an upper smooth belt, which together pass through a refrigerated zone and are sprayed with a refrigerated solution of propylene glycol and water, where the product is frozen to a solid slab in 2–4 min. At the discharge end of the machine the slab is broken along the corrugations into pellets of size normally 6 × 12 × 25–40 mm. Typical products frozen are liquid egg, minced fish, fish protein concentrate, fruit juice, fruit, berry and vegetable paste, and meat products e.g. sauce, mince, and mechanically separated meat. Freezing tests with cream showed the lowered plate count and coliforms in cream after freezing in PelloFreeze; freezing takes 4–5 min. Thawing tests with cream were carried out and a special programme established. Commercial thawing was done in 45 min from −16°C/−18°C to +1°C and at the end of thawing to +8°C to eliminate graininess. Pellets of e.g. spinach, sauce and soup are widely used in catering. AL

4

[Different types of packaging of milk for distribution in schools.]

Anon.

Technique Laitiere No. 932, 23–24 (1979) [Fr]

In considering different systems, ease of use by children must be considered as well as price. At present the most widely used package is the 20 cl Tetra Pak brickette from which the child drinks with a straw; the milk is either pasteurized or UHT-sterilized and the brickettes can be distributed in over-wraps of 27. A 25 cl carton proposed by Elopak can be dispensed from a machine normally used for 1 litre packs; it has a flat or pointed top and can be used with a straw without opening. Cherry-Burrell also make a 25 cl carton derived from a 1 litre type, which requires special dispensing equipment but is cheap. Small-capacity plastics sachets proposed by Prepac and Thimonnier are the most economical but are difficult for small children to use. Self-service distribution from 10, 20 or 25 l plastics bags in a refrigerated machine is also considered. JMa

5

Hors d'oeuvres frozen in Hong Kong meet U. S. food service need.

Anon.

Quick Frozen Foods 40 (6) 36–37, 52 (1978) [En]

A description is given of the line of authentic, dim-sum (hors d'oeuvre) delicacies, imported into the eastern United States under the 'Hong Lan' label by the Dah Chong Hong Trading Corporation of New York. Among the var. available are: crunchy shelled shaomai, steamed and fried with turkey meat; steamed shrimp dumpling and a steamed dumpling with turkey meat; a fried taro croquette, with turkey meat and taro; steamed chasiu bun, with turkey meat; and steamed linyun bun, with lotus seed paste and vegetables. The delicacies are quick-frozen in Hong Kong. They can be heated and ready to serve in min, with no waste, at a total cost of only pennies each. VJG

6

Method for displaying and maintaining precooked food in a moist condition at a suitable serving temperature.

Lents, C. M.

United States Patent 4 153 736 (1979) [En]

Method for automatically maintaining pre-cooked food such as corn-on-the-cob in a moist condition and at serving temp. comprises a display cabinet with a rotary carousel for periodically dipping the food in a basting liquid and thereafter draining at a predetermined rate to keep the food palatable and prevent over-basting. AS

7

[Which way for school milk distribution?]

Anon.

Technique Laitiere No. 932, 11–13, 15, 17–18, 20–21 (1979) [Fr]

The distribution of milk in French schools is considered by a discussion group representing various organizations. The school diet is often deficient in animal protein; the nutritive and economic value of milk and cheese in making up this deficiency is stressed. Early establishment of milk-drinking habits, i.e. in infant classes, is important, and the ready acceptance of milk by young children is pointed out. Finally, economic problems are considered and the financial aid available from FORMA to parents unable to contribute is discussed; of 7.5 million children in primary schools in 1977–1978, 1.3 million were in the FORMA programme. JMa

8

Perishable food handling workshops conducted in Pennsylvania.
Barnard, S. E.
Journal of Dairy Science 62 (suppl. 1) 33 (1979) [En] [Pennsylvania State Univ., University Park, Pennsylvania 16802, USA]

Topics discussed were spoilage, food poisoning, personal hygiene, cleaning of equipment and food handling practices. Information was provided for dairy products, meat, poultry, delicatessen, fruit and vegetables. Evaluation indicated that such information was useful to the participants in their food service operations. ASe

9

[Results of bacteriological control of prepared food dishes.]
Legrand, M.; Jouve, J.-L.; Drieux, H.
Recueil de Medecine Veterinaire 154 (9) 761–766 (1978) [Fr, en, es] [Ecole Nat. Vet. d'Alfort, F94704 Maisons-Alfort Cedex, France]

Ready-prepared dishes distributed in France are now used by both small caterers and large modern restaurants. During 1977, 86 random samples of dishes (41 hot, 34 refrigerated, 11 deep frozen) were taken for bacteriological examination from school canteens, private establishments and large self-service restaurants. % of samples failing to meet official standards (in parenthesis) were: salmonellae, nil (absent in 25 g); pathogenic staphylococci, nil (<100/g); total coliforms, 3.4 (<1000/g); *Escherichia coli,* 4.6 (<10/g); sulphite-reducing anaerobes, 3.4 (<30/g); and total aerobic mesophiles, 32.5 (<300 000/g). Detailed examination of excessive total aerobic counts showed distribution of failures (% of samples studied of each type) by public vs. private establishments of 5.5 and 34 (difference in hygienic standards); by basic component of dish, fish 50, offals 37.5, composite dishes 33, pork 10, poultry 9, beef and veal nil; for dishes without sauce 13, with sauce 28, with sauce % failures of tomato 7, cream 75, others 25. Fewer failures occurred with dishes below pH 6.2; dishes conserved by heating yielded % failures of 2.5, by refrigeration 38, and by deep freezing 36. After warning the least satisfactory handlers, examination of a further 45 dishes revealed a considerable improvement. ELC

10

Prevention of foodborne diseases in food service establishments.
Bryan, F. L.
Journal of Environmental Health 41 (4) 198–206 (1979) [18 ref. En] [US Dep. of Health, Education & Welfare, Cent. for Disease Control, Atlanta, Georgia 30333, USA]

Approaches for controlling foodborne diseases in food service establishments, based upon contemporary epidemiological data and on the biology of foodborne pathogens, are discussed. SP

11

Food poisoning in hospitals in Scotland.
Sharp, J. C. M.; Collier, P. W.; Gilbert, R. J.
Journal of Hygiene 83 (2) 231–236 (1979) [7 ref. En] [Communicable Diseases (Scotland) Unit, Ruchill Hospital, Glasgow, UK]

12

The effectiveness of the National Institute for the Foodservice Industry management sanitation course.
Cook, C. C. C.
Dissertation Abstracts International, B 39 (10) 4826: Order no. 79-08018, 96pp. (1979) [En] [Southern Illinois Univ., Carbondale, Illinois 62901, USA]

This study attempted to determine the extent to which a food service sanitation course for managers affected the sanitation inspection scores at the establishments where the managers worked; the course had been sanctioned by the state of Illinois (USA) to meet the state's requirement that all food service establishments have ≥1 manager who has passed a written food service examination. Food service establishments employing managers who had not attended the course served as controls. It was found that at all the establishments studied, including the controls, inspection scores were significantly higher after the course than before; reasons for this general increase in scores could not be found. JA

13

Boil-in-the-bag: what the caterers think.
Phelan, A.
Frozen Foods 32 (5) 33 (1979) [En]

A postal questionnaire aimed at 288 caterers using Reheatable Containers' system for enabling caterers to produce their own boil-in-bag frozen entrees had a response rate of 26%. The main advantages of the Rhinoflex Regime were given, in order, as: elimination of waste, accurate portioning, higher standards, ability to extend menu range, and time saving. Frozen dishes were reheated in boiling water by 71.43% of respondents (38.57% used it as the only method), and in microwave oven by 58.57% (25.71% as the only method). Some respondents had problems with filling the pouches. AL

14

Cook-freeze and foil – perfect partners.
Anon.
Frozen Foods 32 (5) 30, 34 (1979) [En]

Advantages of the cook-freeze technique of catering are discussed. Foil containers sealed with foil/paperboard laminate lid or a wrap-over of Al foil are blast frozen at a temp. of −20°C for 1½–2 h and transferred to a storage unit maintained at −20°C until required. Some foil containers in the wide range produced by Bowater Foil and Paper Products of Sunbury for different bulk catering techniques are briefly described. AL

15

Controlling risks in new product development in the food service industry.
Fleming, J. F.
Food Technology 33 (8) 66–67 (1979) [En] [Arthur D. Little, Inc., Acorn Park, Cambridge, Massachusetts 02140, USA]

Sources of risk in development of new food products are identified as economic evaluation and market identification. Another source of risk is inherent in the organization of some food manufacturers; food technologists responsible for product development are kept isolated from the marketing trials stages, thereby not receiving many valuable insights into the product. DIH

16

Identifying and characterizing new product requirements: a food service operator's view.
Horton, K. A.
Food Technology 33 (8) 68–69 (1979) [En] [Friendly Ice Cream Corp., Wilbraham, Massachusetts 01095, USA]

Stages involved in development of new menu items for a food service organization running 5 styles of retail outlets and that manufactures some of its products and purchases the rest are briefly described. DIH

17

Critical issues affecting new product development for supplying the food service industry.
Angeline, J. F.
Food Technology 33 (8) 70–71 (1979) [En] [Grocery Products Group, Quaker Oats Co., John Stuart Res. Lab., 617 W. Main Street, Barrington, Illinois 60010, USA]

Chief problem areas are identified for managing research and development to support food service by the Quaker Oats Company, a company with a major commitment to consumer grocery products, and a smaller more recent one to the food service industry. Funding for research and development reflects sales, so little of corporate funding is exclusively available for food service, although indirect benefits from total food research and development are available. Lack of marketing experience in the food service industry can be a problem, as can a factor peculiar to an organization mainly producing branded consumer products, i.e. lack of brand identity at retail level. Communication of management objectives to research and development staff is the final problem described. DIH

18

A major chain restaurant operator's view of requirements for new products.
Bauch, H.
Food Technology 33 (8) 62, 64–65 (1979) [En] [Denny's Inc., 14256 E. Firestone Boulevard, La Mirada, California 90638, USA]

Certain marketing and technical requirements for new food products for use in restaurants are described. Important marketing requirements are that foods should be attractive to well-defined target groups and should be able to be retailed at an average food cost of 33%; another marketing requirement is for more local/regional specialities. Primary technical requirement is min. labour demand and tolerance to mishandling in preparation. Ancillary technical demands include use of min. freezer storage space and being able to be prepared from stable storage (frozen/dehydrated) on demand. DIH

19

Institutional item moves to consumer markets convenience, nutrition, key selling points.
Anon.
Food Product Development 13 (4) 28 (1979) [En]

Great American Basic Commodities of Plover, Wisconsin is moving from institutional to retail markets with its product School Sandwiches. The Min-Sub, the first items in the retail line consists of bologna, salami, and American cheese on a sesame seed bun. Packed 4 to a box, the sandwiches are wrapped individually and quick frozen at −10°F. They are prepared on the same production lines that Great American uses to make sandwiches for the Federal School Lunch Program. VJG

20

Non-meat soup bases save restaurant labor, offer single-serving beverage alternative.
Anon.
Food Product Development 13 (4) 24 (1979) [En]

L. J. Minor Corp. produce 2 concentrated food bases – VegeChicken and VegeBeef Consomme, which require no cooking and clarification when used to make soups and gravies in restaurant kitchens. They need to be reconstituted with boiling water to yield a fully seasoned stock. The dry chicken base consists of salt, hydrolysed cereal solids (maltodextrin), monosodium glutamate, nucleotides, whey, sugar, corn oil, dehydrated onions and flavourings. VegeBeef is a liquid concentrate made from vegetable extracts, protein derivatives, monosodium glutamate, seasonings and salt. VJG

21

Magnitude estimation can predict whether a menu item is potentially boring.
Moskowitz, H. R.; Fishken, D.; Ritacco, G. F.

Food Technology 33 (8) 72, 74–75 (1979) [4 ref. En] [Developmetrics, Inc., Div. of Weston Group, Inc., 60 Wilton Avenue, Westport, Connecticut 06880, USA]

The technique of magnitude estimation is described, to show which foods newly introduced onto menus may rapidly bore customers, despite high initial acceptance. A small panel is used to evaluate either real foods or lists of names only. Respondents score the following characters on an open-ended scale using numerical values of their own choice: overall acceptability, specific attributes, desired frequency of eating, and purchase intent assuming last purchase was 1 day, 3 days, 1 wk, 1 month or 3 months ago. The scale is normalized by requesting respondents to give values to foods they 'like extremely' 'like moderately' etc. Analysis of the results enables optimum menu planning. DIH

22

Dehydrated onions answer foodservice need for consistent, labor-saving product.

Anon.

Food Product Development 13 (4) 20 (1979) [En]

Gilroy Foods, Inc., a division of McCormick Co., Inc. have combined high quality dehydrated onions with a specially designed dispensing package, and hope to make significant inroads in the fast food restaurant market. The dehydrated onions have good flavour and guaranteed particle size and shape. The Dispens-A-Pak container, which is designed to make in-store handling easier, consists of a bag-in-box system holding between 10 and 15 lb of dehydrated onions in a corrugated shipper. A plastics pitcher with proportioning instructions printed on the sidewall is provided. The operator pours onions to one fill line and adds water to a second mark, assuring the right proportion of water to onions. VJG

23

[Pupils like milk.] Schüler mögen Milch.

Wagenbach, H.

Deutsche Molkerei-Zeitung 100 (31) 1108–1110 (1979) [De]

Experience since milk sales were introduced in Sept. 1978 at Hadamar school, Hessen, Federal Republic of Germany, is briefly related. The greatest demand is for yoghurt, which with daily sales of about 1700 cups has a major share in the total of > 2000 cups of milk products sold every day. Both high-fat and low-fat milk are popular. The milk is sold at 2 bars in the assembly hall where the pupils gather during the 2 morning breaks (10 and 15 min long). 25% of schoolchildren in Hessen (vs. only 3.5% before the school milk programme was introduced) now drink milk. FL

24

Butter-cupper solves re-serve problem.

Anon.

Dairy and Ice Cream Field 162 (5) 54, 56 (1979) [En]

A newly installed packaging machine at Sugar Creek, Louisville, Kentucky, butter processing and packaging plant uses pre-formed plastics cups heat-sealed with a preprinted closure to produce completely enclosed butter portions for serving in restaurants. The machine, operated by 1 person, has a capacity of 500 units/min, corresponding to about 300 lb butter/h. The cups are packed in batches of 720 in boxes, the numbers being controlled by an automatic counter. FL

25

Fish for catering.

Betta, J.

Frozen Foods 32 (6) 24, 26 (1979) [En]

Use of fish for catering is briefly discussed, with particular mention of scampi and prawns, smoked fish (mackerel, salmon, halibut) and breaded mussels. A list is given of suitable fish products which may be served at different mealtimes by various types of catering establishment. AL

26

[Application of pocket calculators in the field of subsidized meals.]

Kovacevic, M.

Hrana i Ishrana 20 (1/2) 63–68 (1979) [Sh, en] [Higijensko Epidemioloski Odred, Vojne Bolnice, Zagreb, Yugoslavia]

Use of the Hewlett Packard 67 programmable calculator for planning of meals in catering facilities is discussed, with reference to its use for: calculating the quantities of foods needed for a given number of portions of a recipe; calculation of the energy and nutrient contents of meals; and planning of diets on the basis of their energy contents. IN

27

[Institutional hygiene control.] Kontrolle der Betriebshygiene.

Senczek, D.

Schlachten und Vermarkten 79 (4) 112–113 (1979) [De] [Reisholzstrasse 63, 4010 Hilden/Rhld., Federal Republic of Germany]

Bacteriological control for catering institutions is briefly discussed, and the composition, utilization and cost effectiveness of some selective solid media are outlined (Rodac solid agar, Columbia-colistin-nalidixic acid = CNA agar, eosin-methylene blue = EMB agar). RM

28

Foodservice systems: product flow and microbial quality and safety of foods.

Unklesbay, N. F.; Maxcy, R. B.; Knickrehm, M. E.; Stevenson, K. E.; Cremer, M. L.; Matthews, M. E.

Research Bulletin, Agricultural Experiment Station, University of Missouri No. 1018, 36pp. (1977) [many ref. En] [Univ. of Missouri-Columbia, Agric. Sta., Missouri, USA]

This publication is designed to provide a reference base which delineates food product flow and presents the current status of microbiological quality and safety of foods served within 4 systems: commissary, conventional, ready-prepared and assembly-serve foodservice systems. The food processing/foodservice interfaces are shown in diagrams, operational objectives and definitions, food product flow, and the rationale of each type of system, factors affecting microbial growth, pathogens associated with outbreaks of food-borne disease, managerial control points, food storage following heat processing, heat processing of pre-cooked items, food product distribution and service are described with the aid of tabulated data. RM

29

Phosphates as energy savers in machine dishwash performance.

Langguth, R. P.; Casey, E. A.

Journal of the American Oil Chemists' Society **56** (10) 909–913 (1979) [6 ref. En] [Monsanto Ind. Chem. Co., Detergents & Phosphates Div. R&D, St Louis, Missouri 63166, USA]

Current US legislation in some States stipulates a max. phosphate concn. of 8.7% P in dishwash detergents. Tests showed that to meet the Federal governments' target of a 20% energy consumption reduction for dishwashers, the sodium tripolyphosphate concn. required in dishwasher detergents would give P concn. far in excess of this level. The tests, involving cafeteria-style dinner plates soiled under controlled conditions, and clean glass tumblers, also showed that reduction of the wash temp. (from 60° to 38°C) in order to achieve the 20% energy savings, gave unsatisfactory results. HBr

30

The effects of serving style on food waste in a school lunch program.

Heimberg, J. S.

Dissertation Abstracts International, B 39 (11) 5305: Order no. 79-09764, 61pp. (1979) [En] [Florida State Univ., Tallahassee, Florida 32306, USA]

The problem of excessive food waste in school lunch programmes has led to research aimed at finding methods for reducing such waste. The purpose of this study was to examine the effects on waste of 3 serving styles: (i) portion size, which allowed children to ask for variations in the amount of food served; (ii) self-serve, which involved use of a buffet table instead of the conventional cafeteria line; and (iii) family style, in which portions for a group of children were served in bowls. The results obtained were compared to those achieved with (iv) standard cafeteria service. In general, (ii) and (iii) were superior to (i) and (iv) in reducing vegetable waste; the amount of vegetables consumed and of entree and fruit waste was similar with all 4 serving styles. The children generally preferred (ii) and (iii) to (i) and (iv). It is suggested that the effectiveness of (ii) and (iii) lies in the degree of control children are given to determine the quantity of food served to them. JA

31

The use of deep frozen meals for large scale catering.

Boltman, D. B.

South African Food Review 6 (4), 33–35, 37, 41 (1979) [En] [Architectural Div., Nat. Building Res. Inst. of the CSIR, Pretoria, South Africa]

The use of a cook-freeze system in large-scale catering is discussed. Aspects considered include: retention of nutritive value; appearance and temp.; availability of food; portion control; control of wastage and theft; labour required; transport of food; and requirements and the process of a cook-freeze system covering siting of the factory kitchen, kitchen organisation and layout (stores, mass measuring and batching, preparation area, cooking, packaging, freezing, deep freeze storage and reheating), depot kitchen, finishing kitchen, and functional design of the kitchen. Advantages of the cook-freeze system are summarized. SP

32

Cadbury set up new preserves production process.

Anon.

Food Processing Industry 48 (570) 17–18 (1979) [En]

Cadbury Typhoo Catering Services have invested £¾ million in a new plant and have introduced a new preserve production process in their Dublin factory. The new plant will produce 8 different var. of preserves in 25 and 20 g individual pots as well as 4 kinds of sauces in 20 g pots. It is the first catering plant in Europa to produce a vacuum-boiled product and form and fill the pack in one integrated operation. The combination of a vacuum boiled product with thermoform packing produces a far higher quality product with a longer life. During 1979 Cadbury Typhoo Catering Services expect to supply the UK catering industry with 27 000 t to products valued at approx. £26 million. VJG

33

[Antioxidants in polypropylene food container-packages. I. Survey of school lunch wares.]

Watanabe, Y.; Sato, K.; Yoshida, R.; Endo, F.

Annual Report of Tokyo Metropolitan Research Laboratory of Public Health 28 (1) 163–168 (1977) [3 ref. Ja, en] [Tokyo Metropolitan Res. Lab. of Public Health, 24-1, Hyakunincho 3 chome, Shinjuku-ku, Tokyo, 160 Japan]

A total of 42 samples of polypropylene tableware being used in school catering in Tokyo was analysed for presence of antioxidants in the material, and migration tests of antioxidants into food simulating solvents were also conducted. Qualitative detection of antioxidants was made by TLC; quantitation was by GLC. At least 1 of 6 antioxidants, (DLTDP, DMTDP, DSTDP, BHT, Irganox 1076 and Antage) were present in the material. By the migration tests, they did not migrate into distilled water at 80° after 1 h immersion, however, most of them migrated into *n*-heptane at 25° after 1 h immersion, with max. concn. being 4.75 p.p.m. of BHT. AS

34

[Some problems of large-scale communal feeding.]

Ausgewählte Probleme der betrieblichen Gemeinschaftsverpflegung.

Kuhlmann, E.

Ernährungsforschung 24 (2) 50–51 (1979) [De] [Abt. Gaststättenwesen, Handelshochschule, Leipzig, German Democratic Republic]

Extended production of semi-prepared products is of major importance in communal feeding, particularly table-ready frozen or sterilized foods, prepared vegetables, frozen fruit and fish, dried products, soup concentrates, and ready cooked meat, potatoes, poultry and vegetables. A further technical rationalization step is centralized, large-scale cooking, and in this case the distribution chain also becomes important e.g. transport of foods from the central kitchen to outlying branches in insulated containers. To completely safeguard microbiological quality, the centre temp. of food delivered must not fall below 50°C. Further possibilities of rationalization are presented by new techniques e.g. refrigerated food. [From De summ.] IN

35

Hospital cook/chill foodservice systems.
Dahl, C. A.; Matthews, M. E.
Journal of the American Dietetic Association **75 (1) 34–37 (1979) [11 ref. En] [Dep. of Food Sci., Univ. of Wisconsin-Madison, Madison, Wisconsin 53706, USA]**

In order to simulate product flow of hot entrees in a hospital cook/chill foodservice system, trials were conducted using laboratory prepared beef loaf (89% ground beef clod and 11% eggs). Effects of end temp. (113°, 140°, 167° or 194°F) of initial cooking on yield and moisture content were determined. Yield and moisture content were evaluated in the uncooked beef loaf mixture and in beef loaves after inital cooking, after chilled storage (24 h at 42 ± 2°F) and after microwave heating ($\geq$165°F) for service to patients. Multiple comparison t-test on data for yield and moisture content indicated that end temp. of initial cooking significantly ($P \leq 0.01$) affected yield and moisture content of beef loaf after cooking and after microwave heating for service to patients. Yield of beef loaf increased $\geq$7% with an end temp. of $\leq$140°F and moisture content was approx. 4% higher than loaves with an end temp. of $\geq$167°F. Use of an end temp. of 140°F for initial cooking was confirmed as a factor which could increase yield and moisture content and thus possibly increase nutritive value of the beef loaf. VJG

36

Portable instrument rapidly measures quality of frying fat in food service operations.
Graziano, V. J.
Food Technology 33 (9) 50, 52, 56–57 (1979) [3 ref. En] [Northern Instruments Corp., 6680 N. Highway 49, Lino Lakes, Minnesota 55014, USA]

Development of a portable instrument to measure quality of frying oil in food service establishments, and use of this instrument are described. Increases in dielectric constant are measured with reference to an unused sample of oil; measurements are performed at 174°F. Effects of using soybean oil, hydrogenated vegetable shortening or blended animal/vegetable shortening for frying for various times (8–32 h) on readings from the new instrument, and on analytical values (free fatty acids, peroxide value, dienes, colour, total polar material, foam height, I value) are tabulated, as are correlation coeff. between instrument readings and analytical values. Results from combining the data for the 3 oils show that the instrument readings had the highest correlation coeff. with total polar materials (0.991) and decrease in I value (0.947). Max. frying life of oils depends on many local factors such as type of food being fried, and it is envisaged that individual companies will correlate instrument readings with sensory analysis to establish the point at which frying oils should no longer be used. DIH

37

[*Salmonella infantis* epidemic in the Hämeenlinna garrison in late winter 1977.]
Walveranta, K.; Ravaja, J.
Suomen Eläinlääkärilehti 84 (9) 449–457 (1978) [Fi, en] [Etelä-Suomen Sotilasläänin Esikunta, Hämeenlinna, Finland]

The infection emanated from frozen broiler liver and spread by food preparation to another kind of food (carrot salad) which carried the infection to the distribution counters of the garrison head kitchen. Of the 800 people having lunch on the 17/2/1977, 188, of which 28 were children, became infected. After the extent of the epidemic was recorded, spontaneous disappearance of infection among the infected persons was studied by faecal samples. Disappearance occurred in 50% of cases in <2 months and 90% in <3 months. Of the infected persons none remained as an infection carrier. Secondary cases were not met with. Because of the damage from the epidemic done to the garrison regarding its health, training and economy, the use of all kinds of chicken products in military restaurants was immediately temporarily forbidden. AS

38

Monte Carlo simulation of nutrient based serving sizes of food.
Ward, R. C.; Harper, J. M.; Jansen, N. B.
Journal of Food Processing and Preservation 2 (3) 155–174 (1978) [5 ref. En] [Dep. of Agric. & Chem. Eng., Colorado State Univ., Fort Collins, Colorado 80523, USA]

Monte Carlo simulation and linear programming are combined to form a procedure for evaluating the serving sizes of foods needed to meet min. nutritional standards (recommended daily allowance (RDA) female and male and US RDA). The procedure is described and applied using over 400 common food items to simulate hundreds of thousands of meals. Once each meal is randomly chosen via Monte Carlo simulation, linear programming is used to determine the food serving size that meets nutrient standards while at the same time minimizing the deviation from currently accepted standard serving sizes. The serving sizes are to be analysed to compare the effect of different standards, calorie levels, and meals (breakfast, lunch and dinner). The paper describes the methodology used in the simulation and presents examples of the results obtained. AS

39

[Microbiological step control with time-temperature measurements during production of ready-to-eat meals. II. Home and restaurant kitchens.] Mikrobiologische Stufenuntersuchung mit Zeit-Temperatur-Messungen bei der Herstellung von verzehrsfertigen Speisen. II. Haushalt- und Ausflugsrestaurant-Küche.
Schmidt-Lorenz, W.; Kaspar, H.; Stampfli, S.
Alimenta 18 (3) 57–75 (1979) [12 ref. De, en] [Inst. für Lebensmittelwissenschaft der ETH Zürich, Tannenstrasse 1, CH-8092 Zürich, Switzerland]

In addition to the previous step controls in a collective food service system, corresponding microbiological step control and simultaneous time-temp. measurements were effected in a private and a restaurant kitchen with 12 microbiologically extremely delicate foods (salads, desserts, meat dishes). At every technical stage 14 groups of microorganisms were counted. For all the dished examined, profiles of the distribution of microorganisms and time-temp. conditions were established in relation to the kitchen technology. The results and application of these methods of examination as well as the proposed microbiological step controls under practical kitchen conditions are fully and critically discussed. [See FSTA (1979) 11 8C421 for part I.] AS

40

Arlington, Virginia revamps food program, raises sanitation level.
Cox, C. F.; Wilson, R. H.
Journal of Environmental Health 41 (4) 208–211 (1979) [En] [Environmental Health Bureau, Arlington, Virginia 22207, USA]

Details are given of the revised system recently introduced in Arlington County (Virginia, USA) for inspecting food service establishments. The system incorporates the use of cards on which is summarized information relating to the most recent inspection (e.g. specific problems, repeated violations, average demerit score) and reflecting the sanitation level of the establishment. An audit of the cards is conducted every 90 days to ensure that all establishments are covered by the system and are scheduled for inspection. Variable inspection frequency is employed, establishments with marginal or inadequate sanitation being inspected more frequently than those with excellent or satisfactory conditions. Rotation of inspection personnel is employed and a team approach is used in training personnel and in operating the system. Since the revised system was introduced in 1977, the sanitation level of marginal/unsatisfactory establishments has improved at an accelerated rate while that of excellent/satisfactory establishments has been maintained. JA

41

[Heat output of catering equipment (SI units).] Wärmeabgaben von Grossküchengeräten (SI Einheiten).
Schwebel, W.
GV-Praxis mit Tiefkühlpraxis 19 (4) 79–80 (1979) [De]

Data are given for the heat and moisture outputs during operation of various types of electrically-heated, gas-heated and steam-heated food preparation and processing equipment, including boiling and steaming units, frying, grilling and baking units, and other food heating, thawing, cooling etc. equipment. AJDW

42

[Meal supply systems for industrial and educational catering facilities.] Speisenversorgungssysteme im Arbeits- und Lehrbereich.
Schwebel, W.
GV-Praxis mit Tiefkühlpraxis 19 (3) 81–82 (1979) [De]

Discussions are given of the relative merits of 4 systems for supply of meals to industrial or educational facilities (fresh preparation; central preparation and cooking of some meal components, and transfer in insulated containers to local kitchens and serving facilities; full central preparation, and transfer in insulated containers to local serving facilities; and central preparation with refrigerated or frozen distribution, with reheating at the site of serving). Aspects covered include max. acceptable distance from the central kitchen, average warm holding time, and the relative advantages and disadvantages of each system (with special reference to labour and equipment requirements, and the organoleptic properties of the products). AJDW

43

[Refrigerated school meals.] Schulverpflegung mit gekühlten Speisen.
Germany, Federal Republic of, Bundesministerium für Ernährung, Landwirtschaft und Forsten
Industrielle Obst- und Gemüseverwertung 64 (18) 481–485 (1979) [De]

The supply of refrigerated school meals (with or without pasteurization) from industrial production or central kitchens is reviewed. Results of microbiological examinations, sensory evaluation, detn. of nutritive value, laboratory tests of processing variables, time and labour requirements and costs are used to recommend procedures for production, packaging, storage and reheating of refrigerated meals. RM

44

New systems for catering.
Glew, G.
Food, Flavourings, Ingredients and Processing 1 (4) 203–205 (1979) [10 ref. En] [Dep. of Catering Studies, Polytechnic, Huddersfield, Yorkshire, UK]

A description is given of different catering systems available (conventional, cook-chill, cook-freeze, total convenience). Effect of the different systems on quality (including vitamin retention) and palatability of different foods is discussed. Costs of the different systems are considered. VJG

45

[Comparison of methods for estimating the energy value of prepared meals.]
Trzebska-Jeske, I.; Rutkowska, U.; Zielinska, Z.
Roczniki Panstwowego Zakladu Higieny 30 (3) 277–

284 (1979) [13 ref. Pl, ru, en] [Inst. Zywnosci i Zywienia, Warsaw, Poland]

The energy content of 12 prepared dishes from the authors' Institute Canteen (including various meat, fish, egg, and vegetable recipes) was determined by (i) the classical method based on the 4, 9, 4 kcal/g coeff. for protein, fat and carbohydrate analytically determined (carbohydrate by difference); (ii) a chromic acid oxidation method; and (iii) bomb calorimetry. It is concluded from results presented and statistically evaluated in detail that (i) and (ii) gave similar results, but that (iii) results were higher. It is pointed out that the size of sample for (ii) should increase with decrease in calorie content. SKK

46

[Technological aspects of communal feeding. VI. Criteria for choosing the most appropriate system for each institution.]
Pinaga, F.; Valles, S.; Carbonell, J. V.
Revista de Agroquimica y Tecnologia de Alimentos 19 (2) 180–189 (1979) [7 ref. Es] [Inst. de Agroquimica y Tecnologia de Alimentos, Valencia, Spain]

This last part of the series discusses the factors governing the choice of an appropriate system, i.e. characteristics of the consumers (numbers and regularity of use, physical activity, food habits, age), required quality of the meals (sensory, nutritive and microbiological), labour requirements, location of the central kitchen, useful life of the precooked meals, equipment and preparation time needed at the serving place, possibility of microwave cooking, and cost. Some recommendations are made for special cases. [See FSTA (1980) 12 3G161 for part V.] RM

47

[Sound nutrition with poultry.] Gesunde Ernährung mit Geflügel.
Anon.
GV-Praxis mit Tiefkühlpraxis 19 (2) 52, 54 (1979) [De]

Use of poultry and poultry products in catering is briefly discussed, with reference to their relatively high protein content and low fat content, and their consequent suitability for replacement of other meats in low-fat and low-calorie diets for hospital patients etc. A block diagram is given showing the protein and fat contents of 8 types of poultry meat-based sausages etc. (mainly turkey-based products). The value of poultry products as a source of dietary vitamins, minerals and polyunsaturated fatty acids is also briefly considered. AJDW

48

[Meat under the magnifying glass.] Fleisch unter der Lupe.
Anon.
GV-Praxis mit Tiefkühlpraxis 19 (4) 32–36, 38 (1979) [De]

Aspects covered in this discussion of use of meat in catering include: the importance of quality; supply and acquisition of meat; types of meat (frozen, canned, fresh carcasses, fresh cuts) used in various sectors of the catering industry; yield of various cuts from pig carcasses, and their uses; meat processing equipment and facilities; the trend towards portioned meat; frozen meat and meat products; frequency of serving of various meat products in catering institutions; the nutritional value of meat; and cooking methods for various meat cuts. AJDW

49

Principles of food inspection.
Marsh, B. T.
Journal of Food Protection 42 (2) 180–182 (1979) [8 ref. En] [Environmental Health Services, Cleveland Dep. of Public Health & Welfare, 1925 St. Clair Avenue, Cleveland, Ohio 44114, USA]

This review-type article discusses aspects of food service operations that concern public health personnel, especially good sanitary practices and causes of foodborne disease. In addition, topics such as protection of consumers from fraud, and whether inspection reports should be published, are discussed. DIH

50

Refrigeration system.
Volk, L. C.
United States Patent 4 177 652 (1979) [En]

A refrigeration system for a catering truck includes a reservoir of ice cubes. A food compartment is provided for storing food under refrigeration and includes a cooling section adjacent thereto. Ice cubes are fed from the reservoir to the cooling section. A blower circulates cool air from the cooling section through the food compartment. AS

51

[Some problems with catering units in the Zagreb area.] Zu einigen Problemen der Gaststättenverpflegung im Gebiet von Zagreb.
Mijatovic-Silec, G.
Hrana i Ishrana 20 (5/6) 263–270 (1979) [13 ref. Sh, en] [Ugostiteljska Radna Organizacija "Zagreback plavi", Zagreb, Yugoslavia]

The situation in relation to catering facilities in the Zagreb region is compared with that in Belgrade and in Ljubljana, with reference to data for numbers of state and private catering establishments, numbers of customers who can be served, personnel aspects and hygienic aspects. Advantages of convenience foods and modern catering equipment are discussed, and proposals are given for improvement and modernization of facilities for provision of subsidized meals. IN

52

[Nutritional value of foods served in an institutional catering establishment.]
Barraud, C.; Henry, M.; Grimault, M. L.
Medecine et Nutrition 15 (5) 365–373 (1979) [Fr, en] [Societe Olida, 114 Rue Baudin, 92300 Levallois-Perret, France]

The nutritional value of various dishes (including fish products, salads, beef dishes, pork dishes, offal products and various sausage-based dishes) served at a factory canteen was studied. Data given include portion size, moisture, protein, lipid and carbohydrate contents, lipid/protein ratio, total calorie content, and proportions of calories derived from protein, carbohydrate and lipids. Data are also included for the composition of the bread served, and the relative consumptions of various beverage types. AJDW

53

[Guidelines for testing of packaging materials. XXXVII. Determination of the total colony count, the mould and yeast count and the total enterobacteria count of auxiliary items for the food industry, for example wooden spoon handles, scoops for ice cream, shashlik skewers, and similar items.] Merkblatt für die Prüfung von Packmitteln. XXXVII. Bestimmung der Gesamtkolonienzahl, der Anzahl von Schimmelpilzen und Hefen und der Anzahl an Gesamt-Enterobakterien auf der Oberfläche vorgefertigter Hilfsmittel für die Lebensmittelindustrie, wie Holzlöffelstiele und Löffel für Eiscreme, Schaschlikspiesse und dgl.
Anon.
Verpackungs-Rundschau 30 (8, Tech.-Wiss. Beil.) 58–59 (1979) [De]

Methods for detn. of the total colony count, yeast count, mould count and total enteric bacteria count of auxiliary items coming into contact with food during serving, etc. are described. Aspects covered include: sampling methods and number of samples; equipment required; culture media and their preparation; sterilization of equipment; sample preparation; plating; incubation; and evaluation and reporting of results. IN

54

[Receptacle, particularly food service dish.] Behälter, insbesondere Menüschale.
Ohler Eisenwerk, Theob. Pfeiffer
German Federal Republic Patent Application 2 820 089 (1979) [De]

A quick meal service dish consists of a shallow Al tray with a rolled flanged edge and divided crosswise into 3 compartments by bridged walls which rise above the surface of the main walls of the tray. A correspondingly convex tightly fitting lid is provided. W&Co

55

Cook/chill foodservice systems.
Rollin, J. L.; Matthews, M. E.; Lund, D. B.
Journal of the American Dietetic Association 75 (4) 440–445 (1979) [16 ref. En] [Dep. of Food Sci., Coll. of Agric. & Life Sci., Univ. of Madison-Wisconsin, Madison, Wisconsin, USA]

Investigations were carried out to predict the time required for 1 pan of a cooked ground beef entree (12 × 20 × 2 in) to cool from approx. 150°F to 45°F using a mathematical model for heat transfer which incorporated thermal properties and geometry of the food mass and process conditions during chilled storage. A ground beef entree was prepared and chilled according to procedures observed in a school cook/chill food service system. Average centre temp. (from 3 trials during first 6 h of chilled storage) of the food mass, was used as a standard for comparing the accuracy of the cooling curve predicted by the model. In 3 trials the predicted cooling time for the geometric centre of the product 4.9 h average, was 36 min (11%) less than the actual cooling time 5.5 h. VJG

56

Energy consumption assessment in the continuum of storage, preparation, and service of food produced in volume.
Barclay, M. J. A.
Dissertation Abstracts International, B 40 (6) 2624–2625: Order no. 79-27024, 125pp. (1979) [En] [Univ. of Tennessee, Knoxville, Tennessee 37916, USA]

The aims of this study were: (i) to develop a schematic energy flow decision model from the identification of the food product flow through a conventional food-service system; (ii) to meter the energy consumption along the food product flow continuum; and (iii) to project the amount of energy consumed along the food product flow for selected menu items in conventional, commissary, ready-prepared and assembly-serve food-service systems. The study was conducted from July to Dec. 1978 at the Univ. of Tennessee, where approx. 1500 meals/day were served during the summer and >4500 meals/day were served during autumn. Menu items studied included 7 entrees, a hot cereal dish, soup and 2 vegetables. The schematic model developed was found to be useful for predicting energy and food product flows in the 4 food-service systems; mean energy consumption/kg product ranged from 528 to 6769 Btu in the conventional system. Equipment requiring natural gas was the most energy intensive. Of the electrical equipment, the steam table was the most energy intensive electrical unit; steam equipment (e.g. jacketed) was the least intensive. Projected energy consumption data indicated that the assembly-serve system would require the least amount of energy/kg of product served and that the commissary system would require the greatest amount of energy. Factors affecting energy consumption in food-service systems include design and composition of equipment, amount of time allowed for equipment warm-up, amount of food prepared in the equipment and decisions relating to the use of equipment by personnel. JA

57

Metric conversion in foodservice – survey of opinions and knowledge.
Inano, M.
Journal of the American Dietetic Association 75 (3) 278–282 (1979) [16 ref. En] [Dep. of Home Economics, Div. of Agric., Univ. of Arkansas, Fayetteville, Arkansas, USA]

405 questionnaires were sent to 191 dietitians and 214 college and university food service directors to assess their attitudes toward and knowledge of the metric system. Replies from 149 (78%) dietitians and 162 (75.2%) from food service directors were analysed. Both groups had favourable attitudes toward the metric system, but a larger percentage of dietitians than food

service directors had a positive outlook toward metrication in the US. A larger percentage of dietitians than food service directors were able to answer the questions that assessed their metric knowledge. The information obtained from the study will be used to formulate and implement effective metric education programmes. VJG

58

An investigation of the bacterial levels in the student mess at the University of Papua New Guinea.
Pearson, M. N.
Science in New Guinea 6 (3) 177-183 (1978/1979) [5 ref. En] [Biol. Dep., Univ. of Papua, Papua, New Guinea]

Bacterial counts were made, using sterile swab technique, on items of crockery, cutlery, cooking utensils, working surfaces and dining tables which had been washed, rinsed and deemed ready for use. The results for 1978 and 1979 (total count of coliforms and faecal coliforms), presented as counts/item or /25cm^2, as appropriate, are tabulated. Of the 28 samples, 25 had unacceptable high total counts ($>10^5$/item), and 23 showed some degree of faecal contamination. As there are no legal obligations for hygiene standards in Papua New Guinea, it is suggested that legally inforceable standards of hygiene be introduced for places serving food to the general public. SP

59

Klebsiella species in hospital food and kitchens: a source of organisms in the bowel of patients.
Cooke, E. M.; Sazegar, T.; Edmondson, A. S.; Brayson, J. C.; Hall, D.
Journal of Hygiene 84 (1) 97-101 (1980) [10 ref. En] [Dep. of Microbiol., Univ. of Leeds, Leeds LS2 9NL, UK]

The aims of the studies were: (i) to examine the extent of *Klebsiella* contamination of food prepared in a hospital kitchen; (ii) to define the sites at which food becomes contaminated with *Klebsiella;* and (iii) to determine whether ingestion of *Klebsiella* in food could lead to intestinal colonization. In study (i), the food was sampled daily for 16 wk and examined for *Klebsiella.* For study (ii), work surfaces, floors, utensils and sinks in a hospital kitchen were examined for *Klebsiella* twice weekly for 7 wk; food at different stages of preparation was also examined. Study (iii) involved examination for *Klebsiella:* in food, drink and medicaments taken in 1 wk by 5 patients; in faecal specimens from the same patients during the same wk and in the wk before and wk after food sampling; on patients' hands; and on patients' lockers and their contents. The *Klebsiella* content of the food examined was up to $>10^3$/g, salad foods and cold meat being most heavily contaminated. Results for foods examined before and after preparation indicated that they become contaminated during preparation. Similar serotypes were found in the food and kitchen environment, suggesting contamination of food from the environment. Using capsular serotyping and bacteriocin typing, the authors demonstrated for 2 of the patients, intestinal colonization by *Klebsiella* strains ingested in food. JA

60

[Conveying of thickened sauces and casserole-type products in pipelines.] Zum Fördern gebundener Sossen und Eintöpfe in Rohrleitungen.
Drechsler, D.
Fleisch 33 (12) 231-233 (1979) [De]

New methods of emptying cooking vessels are desirable in the industrial manufacture of sauces, casserole products, etc., use of pipeline systems is discussed. The characteristics of the product (viscosity, presence of solid pieces and water-binding agents) must be taken into consideration in selection of pumps and pipelines. Both thickened and non-thickened sauces may be conveyed in complex pipeline systems; pipeline systems for casserole products should, however, be relatively straight and simple, to minimize comminution of the solids. The products should be as hot as possible during conveying; pressure losses and cooling should be minimized by careful selection of pumps and the diam. and length of the pipeline. Because of the danger of microbial contamination, the products should not be held in the pipelines for >30-40 min. IN

61

Machine for sealing food containers.
Hempel, R. P., Jr.; Rondelli, E.
United States Patent 4 180 959 (1980) [En]

A machine for sealing food containers incorporates a horizontal base and, particularly for institutional meals or snacks or for 'take-away' products, means attached to the base for supporting the container, which may be of Al foil. HBr

62

Report shows need for special packaging for microwave-ready convenience foods.
Anon.
Quick Frozen Foods 40 (12) 24-26 (1978) [En]

The selection of frozen convenience foods for microwave heating is limited due to the unsuitability of most current packaging. The need to develop a new and probably unique package is discussed. The suitability of the differential heating container or DHC, a container on sleeve of metal or of plastics material opaque to microwave energy, with a form of shielding to reflect and control the microwave energy, is discussed. The DHC sleeve allows the correct amount of energy to reach each of several different types of food on one tray, so that those that tend to heat faster, such as vegetables, will take as long as those that would take longer; such as meat. A DHC, designed by Teckton, Inc., of Waltham, Massachusetts permits the insertion of a tray filled with portions of meat, a starch food, vegetable, salad, roll and butter, and ice cream. After the proper time in the microwave oven, the meat and complements would be at 140°F while the ice cream remained unmelted, the salad stayed crisp, and roll was warm. Another approach considered is a plastics container package utilizing metal ink for accurate shielding. VJG

63

[New quick-frozen foods for schoolchildren.]
Krainaya, V. S.; Korotaeva, M. M.; Aizyatova, Zh. Z.; Gonotskii, V. A.; Popkov, V. N.
Kholodil'naya Tekhnika No. 10, 7–9 (1979) [Ru] [Vses. Nauchno-proizvodstvennoe Ob"edinenie Kleezhelatinovoi i Ptitsepererabatyvayushchei Promyshlennosti "Kompleks", USSR]

Recipes and technologies for making quick-frozen diets for schoolchildren are given; the products are chicken hamburgers and liver-egg pate. The first is made from chicken meat and chicken stomachs, hearts and liver; the finished product contains 16% proteins and 8.9% fat and is served with cooked rice and butter. The food is packed in Al foil. The hamburgers can be kept at −18°C for 3 months. The basic constituents of the pate are cooked chicken liver and eggs; it contains 16.5% fat and 14.3% proteins. Moisture release is eliminated by kasetsit or potato starch. STI

64

[From the saucepan to a continuous process.]
Österström, L.
Kemisk Tidskrift No. 4, 72–76 (1979) [4 ref. Sv] [SIK – Svenska Livsmedelsinst., Göteborg, Sweden]

Developments in preparation of foods in large-scale catering establishments are discussed, with reference to: deterioration of the organoleptic properties of cooked foods during warm holding; the need for improvements in processing equipment and methods; the relative merits of frying methods, including IR frying; improvements in cooking of potatoes (with reference to studies on changes in temp. within potatoes during cooking); and the possibility of application of instruments developed for other industries to process control etc. in large scale food preparation. AJDW

65

Organoleptic examination of canned ready to eat meat casserole specialities. [Lecture]
Rantsios, A. T.
Proceedings of the European Meeting of Meat Research Workers No. 24, C10:1–C10:4 (1978) [3 ref. En, de, fr, ru]

Hellenic traditional habits and the large numbers of Greeks travelling or living temporarily or permanently abroad create a demand for canned ready-to-eat preparations of meat with a variety of vegetables. 30 canned products (from 4 manufacturers) based on meat, dry beans, rice, potatoes, string beans, green peas, spinach, onions, and sauce were examined organoleptically by a panel of 10 persons who were asked to complete a questionnaire which included 21 questions covering appearance, acceptability before consumption, impression gained during consumption of the different constituents of the product separately or together, and general acceptability after consumption. The need for a complex questionnaire is defended and its advantages are stressed. It is thought that the grade of unacceptability of a product should not exceed 2 on a 5-point scale for all characteristics evaluated, and that for tenderness and general acceptability, the score should be ≥3. [See FSTA (1980) 12 8S1280.] SKK

66

Cook/chill foodservice system with a microwave oven: thiamin content in portions of beef loaf after microwave-heating.
Dahl, C. A.; Matthews, M. E.
Journal of Food Science 45 (3) 608–612 (1980) [En] [Dep. of Food Sci., Univ. of Wisconsin, Madison, Wisconsin 53706, USA]

2 heat processes were used to simulate preparation of beef loaf as would occur in hospital cook/chill foodservice systems. Thiamin content of beef loaf was evaluated before initial cooking; after initial cooking to 63–66°C and 24 h chilled storage at 6°C; and after 0, 20, 50, 80 or 110 s of microwave-heating (2450 MHz; 1408W output). Values for thiamin, determined using a fluorometric method, were adjusted to account for wt. losses after 2 heat processes and storage of the beef loaf. A decrease in thiamin content (mean 0.9 µg thiamin/g beef loaf uncooked) was not related to time or end-temp. of microwave-heating. Microwave-heating accounted for ⅓ of the 30% total thiamin loss. IFT

67

Specification for gas heated catering equipment. VIII. Griddle plates.
United Kingdom, British Standards Institution
British Standard BS 5314: Part 8, 13pp. ISBN 0-580-10693-4 (1979) [En] [2 Park Street, London W1A 2BS, UK]

68

Specification for gas heated catering equipment. IX. Boiling pans.
United Kingdom, British Standards Institution
British Standard BS 5314: Part 9, 12pp. ISBN 0-580-10789-2 (1979) [En] [2 Park Street, London W1A 2BS, UK]

69

Cook/chill foodservice system with a microwave oven: quality of food after microwave-heating.
Dahl, C. A. B.
Dissertation Abstracts International, B 40 (7) 3078–3079: Order no. 79-27167, 296pp. (1980) [En] [Univ. of Wisconsin, Madison, Wisconsin 53706, USA]

Cook/chill foodservice systems in hospitals frequently use microwave ovens to heat portioned, precooked food immediately before serving to patients. Wide ranges found in the centre, internal end temp. of such foods after microwave heating has raised doubts as to the constancy of the microbiological and nutritional quality of food prepared in these cook/chill systems. Studies were made of the range of the centre, internal end temp. of portioned, precooked foods (beef loaf, reconstituted dehydrated potatoes, frozen and canned beans) subjected to microwave heating and of the microbiological and nutritional quality of these foods. An energy accounting model of the microwave oven subsystem was also developed; a wattmeter and various thermal calculations were used to develop the model. Observations on the foods were conducted during food product flow and before and after microwave heating. Ranges in the end temp. (≤46°C) and in the quantity of aerobic mesophilic bacteria ($\leq 10^5$ colony-forming units/g) were observed after microwave heating. The quantity of added *Staphylococcus aureus* and *Streptococcus faecium* decreased as time of microwave heating increased, while the proportion of injured to uninjured bacteria generally increased as heating time increased. Of the total 30% loss of thiamin from beef loaf, approx. 10% was accounted for by microwave heating. JA

70

Experimental preparation of frozen prepared dishes for catering. [Lecture]
Koscher, J.; Rosset, R.; Lebert, F.; Liger, P.; Lecrivain, E.; Dunas, S.
Bulletin de l'Institut International du Froid 59 (4) 1190-1193 Abstr. C2-112 (1979) [En, Fr] [Lycee Tech. d'Hotellerie & de Tourisme de Strasbourg, 67400 Illkirch-Graffenstaden, France]

Recipes and cooking procedures, choice of ingredients, nature and type of packaging (individual, multi-portions), freezing, storage and reheating of frozen prepared dishes are described. The influence of 2 types of freezing (mechanical and cryogenic) and 2 types of reheating (forced convection oven and microwave oven) processes on the microbiological and organoleptic characteristics of these products were studied. The tested prepared dishes were found to have excellent microbiological quality, and their organoleptic characteristics were altered (especially by oxidation) only after a relatively long storage period. [See FSTA (1980) 12 9G615.] AS

71

Comments upon the results of the applying of refrigeration to central kitchens for airline catering. [Lecture]
Muller, M.
Bulletin de l'Institut International du Froid 59 (4) 1192-1193 Abstr. C2-117 (1979) [En, Fr] [SERVAIR Lab., CDG Airport, 95707 Roissy, France]

The production of meals for airline catering is based mainly on the use of refrigeration for preservation. Assurance of the quality, notably bacteriological, depends on the strict application of refrigeration: (i) for raw foodstuffs (especially animal products) where correct delivery temp. is essential and guarantees satisfactory microbiological quality; and (ii) for food production itself, where the strict application of procedures for cooking, rapid chilling, cold storage from 0° to +3°C produces products which satisfy the standards of pre-cooked meals. [See FSTA (1980) 12 9G615.] AS

72

Specification for gas heated catering equipment. XII. Bains-marie.
United Kingdom, British Standards Institution
British Standard BS 5314:Part 12, 15pp. ISBN 0-580-10791-4 (1979) [En] [2 Park Street, London W1A 2BS, UK]

Requirements and tests are specified for 1st, 2nd or 3rd family gas heated bains-marie intended for the storage of hot food preparatory to serving in catering establishments. AL

73

California develops environmental component for Summer Food Service Program – a supplement to the National School Lunch Program.
Kruse, L. M.; McGurk, J. S., Jr.
Journal of Environmental Health 42 (2) 78-80 (1979) [2 ref. En] [California Dep. of Health Services, 744 P Street, Sacramento, California 95814, USA]

The State of California Department of Health Services coordinated the environmental health surveillance of food preparation and serving sites for the 1978 Summer Food Service Programme for Children, utilizing sanitarians from local health jurisdictions and college student monitors. The major violations observed during inspections involved improper temp. control of potentially hazardous foods. 50% of the meals that were wt. tested as part of the programme were found to fall below the federal 2 oz wt. requirement/serving for meat or meat alternatives. AS

74

Total plate and coliform counts for fast food service sandwiches.
Ockerman, H. W.; Stec, J.
Journal of Food Science 45 (2) 262-266 (1980) [18 ref. En] [Dep. Anim. Sci., Ohio State Univ., Columbus, Ohio 43210, USA]

6 types of fast-food service sandwiches were investigated for microbiological quality; sandwich types studied had the following fillings (all served in toasted bun): (i) roast beef; (ii) (i) + lettuce, tomatoes and salad dressing; (iii) (i) + horseradish sauce; (iv) roast turkey; (v) (iv) + salad and dressing as in (ii); (vi) (iv) + salad dressing. Entire sandwiches were homogenized and analysed for total plate count (TPC) on tryptone glucose extract agar and for coliforms on violet red bile agar. To compare different restaurants, (i) sandwiches were obtained from 6 establishments of the same chain. Least square mean (LSM) TPC were in the range 1090-5390/g; LSM coliform counts were 0-26/g. Restaurant, time of day and day of wk were not factors influencing contamination level. Different sandwiches were compared in 1 establishment; LSM of TPC and coliform counts (/g) were: (i) 1708, 0, (ii) 41 440, 8.2; (iii) 742, 0.2; (iv) 27 680, 19.0; (v) 184 200, 280; and (vi) 1924, 3.4, resp. Turkey sandwiches had significantly higher counts than beef sandwiches, and addition of salad vegetables significantly increased counts. Addition of sauce [(iii) and (vi)] caused observed counts to be lower than in plain meat sandwiches, but the effect was not statistically significant with the number of samples analysed (5 of each). Effects of storage of sandwiches for 0-8 h at 16-38°C are shown graphically; it is recommended that sandwiches be stored for <4 h at 38°C or <8 h at 32°C. Sandwiches contaminated with pathogens could, however, be dangerous without storage. DIH

75

Covered, portable, compartmental insulated plate for prepared foods.
Higley, F.
United States Patent 4 190 155 (1980) [En]

76

Cadbury bid for larger share of portioned preserves market.
Anon.
Food Trade Review 49 (7) 392-393 (1979) [En]

Cadbury Typhoo Catering Services (CTCS) was set up at the beginning of 1979 as a specialist division of Cadbury Schweppes. Over the last 5 yr they have maintained a position as market leader with their packs of portion preserves. The total catering preserve market for 1979 is estimated to be worth £32 m. During 1979 CTCS expected to supply the UK catering industry with 27 000 t valued at approx. £26 m. A description is given of the new continuous flow preserve production and packaging process which Cadbury's have introduced into their Dublin factory. The process produces a vacuum-boiled product and forms and fills portion controlled packs in 1 integrated operation. The new plant produces 8 different var. of preserves in 25 g and 20 g individual portion pots, as well as 4 kinds of sauces in 20 g pots. VJG

77

[Various aspects of and problems with rationalization of preparation of meals.] Aspekte und Probleme der Rationalisierung der Speisenproduktion.
Lange, A.
Lebensmittel-Industrie 26 (11) 489-490 (1979) [De, en, ru, fr]

Rationalization of manufacture of prepared meals and meal components for canteens, restaurants, etc. is discussed, with special reference to meat, poultry and vegetable products. Planning and development of central kitchens is discussed, together with improvement of the processes and technology used, and cold storage of prepared meals and meal components. IN

78

[Fundamentals of food legislation as applied to the manufacture of institutional menus.] Grundlagen des Lebensmittelrechts bei der Herstellung von GV-Menüs.
Bertling, L.
Fleischwirtschaft 60 (2) 222-223; 257 (1980) [De, en]
[Sanderstrasse 161, 5600 Wuppertal 2, Federal Republic of Germany]

Consumer protection against health hazards and fraud connected with the eating or buying of foods is controlled by a number of definitions (Guiding Principles of the Federal German Food Manual), regulations and orders which the manufacturer or distributor cannot evade. The fields of hygiene, composition and labelling are given special attention in this article. AS

79

[Rapid methods for evaluation of the bacterial quality of prepared meals in communal catering.] Schnellmethoden zur Untersuchung der Bakteriologischen Beschaffenheit von Fertigspeisen für die Gemeinschaftsverpflegung.
Bomar, M. T.; Popken, A.-M.
Berichte der Bundesforschungsanstalt für Ernährung No. 1, 121pp. (1980) [many ref. De, en]
[Bundesforschungsanstalt für Ernährung, Karlsruhe, Federal Republic of Germany]

Studies were conducted on the value and reliability of rapid tests for evaluation of the microbiological quality of prepared foods. Rapid tests studied included: detn. of glucose degradation; evaluation of nitrate reductase activity; detn. of unspecific microbial esterases; the Limulus test for bacterial endotoxins; and lactate dehydrogenase tests. Theoretical and practical aspects of each of these tests are discussed, together with results of model studies, and investigations on foods from a catering institution. The characteristics and applications of the individual tests are discussed in detail. AJDW

80

[Hygienic quality of foods prepared in rapid snack catering establishments.]
Ners, A.
Zywieni Czlowieka 6 (4) 235-240 (1979) [18 ref. Pl]
[Zaklad Higieny Zywienia, Inst. Zywnosci & Zywienia, Warsaw, Poland]

Studies on hygiene standards in 25 establishments showed excessive temp. in cold storage and display facilities in 70%, largely as a result of placing foods into these facilities at excessive initial temp. Overloading of capacity and high microbial counts of food processing equipment lead to high counts in the prepared foods. Potato/vegetable salads had total counts of $\geq 2 \times 10^6$/g, coliform counts of 10^3-10^5/g; *Proteus* and *Staphylococcus* spp. were also detected. Bacteriological examination of raw materials and at various stages of processing showed that total and coliform counts could be reduced by a factor of 10^3 and *Proteus* and *Staphylococcus* could be eliminated by intensive disinfection of equipment, strict observance of hygiene standards, and organizational measures (reduction of cooling time of cooked potatoes, cold storage of sliced potatoes overnight at 3°C, preparation of fresh mayonnaise as required). IN

81

[The hotel and restaurant trade in the market for wine in the Federal Republic of Germany at the start of the 1980's.] Das Gastgewerbe in der Absatzstruktur für Wein zu Beginn der 80er Jahre
Bock, K.-H.
Weinwirtschaft 116 (11) 352-355 (1980) [De] [Inst. für Betriebswirtschaft & Marktforschung, Geisenheim, Federal Republic of Germany]

82

Flavoured milks - recent world-wide developments.
Lang, F.
Milk Industry 82 (5) 38-40 (1980) [12 ref. En]

[Commonwealth Bureau of Dairy Sci. & Tech., Shinfield, Reading RG2 9AT, UK]

After outlining trends in the output of flavoured milks in various countries, the author reviews recent developments in their distribution in schools, types manufactured (strawberry, banana, chocolate, mango, carob, vanilla), methods of preparation, successful promotion of flavoured milks in Australia, and finally a soft-drink concentrate produced in Japan. FL

83

[Consumer complaints in the practice of veterinary food inspection.] Verbraucherbeschwerden in der Praxis der tierärztlichen Lebensmittelüberwachung.
Kraus, H.
Fleischwirtschaft 60 (3) 413–416; 457 (1980) [6 ref. De, en] [Düsseldorfer Strasse 26, D-4020 Mettmann, Kreisverwaltung, Postfach, Federal Republic of Germany]

The legal aspects of consumer complaints are reviewed in the light of the Food and Commodity Regulations (LMBG) Paragraph 6, Section 2, with special reference to concumer protection in institutional feeding (e.g. hospitals). RM

84

A course with a difference.
Vaughan, G. E.
Food Technology in Australia 31 (8) 353–356 (1979) [En] [Hawkesbury Agric. Coll., Richmond, NSW 2753, Australia]

Details are given of the Associate Diploma in Food Control course at the School of Food Sciences, Hawkesbury College, New South Wales. The basic aims and objectives of the course are to train personnel who would be able to assume a supporting role in process supervision, food handling and technical activities and to be adaptable in various areas of the food industry. VJG

85

[Hygiene requirements in kitchen areas for the prevention of transmissible diseases.]
Hygieneanforderungen im Küchenbereich zur Verhütung übertragbarer Krankheiten.
Terbeck, G.
Bundesgesundheitsblatt 20 (25) 373–378 (1977) [De] [Hinrich-Wilhelm-Kopf-Platz 2, 3000 Hannover, Federal Republic of Germany]

Kitchen hygiene is discussed, with reference to the diseases transmissible in foods, relevant Federal German regulations on food and drink hygiene and both personal and equipment hygiene precautions. JRR

86

Improved inspection scheduling for foodservice establishments.
Kaplan, O. B.; Zalkind, D.
Journal of Food Protection 43 (5) 408–409 (1980) [5 ref. En] [Dep. of Environmental Health Services, San Bernardino County, 1111 East Mill Street, San Bernardino, California 92415, USA]

Theoretical and experimental considerations indicated, that overall sanitation scores for a community's food service establishments would improve if the frequency of sanitation inspections were made to vary according to perceived risks attributable to sanitation deficiencies. AS

87

Quality assurance for caterers.
Gormley, T. R.
Farm and Food Research 10 (1) 16–18 (1979) [En]

Aspects of the topic considered are: food quality; quality control (QC) and quality inspection (complete QC system, components of QC system, sampling procedures, testing and recording); quality maintenance during chill storage, frozen storage and thawing of foods; food wholesomeness; customer feedback; and public relations. VJG

88

Facts about frozen foods for the foodservice industry. [Book]
Frozen Food Action Communications Team Inc.
Ed. 2, 112pp. (1979) [En] PO Box 2412, Grand Central Station, New York, New York 10017, USA. Price $20.00

This handbook presents concise information about frozen foods. Chapters are: Definitions and categories (p. 1); Freezing processes (p. 3); Economics (pp. 5–7); Freshness, quality, flavour and availability (pp. 9–13); Holding and storage (pp. 15–22); Vegetables and fruits (pp. 23–37); Juices and ades (pp. 39–42); Meat (pp. 43–50); Poultry (pp. 51–57); Fish/seafood (pp. 59–68); Bakery products (pp. 69–72); Other frozen foods (pp. 73–81); Additives (pp. 83–86); Equipment (pp. 87–91); Distribution (pp. 93–96); History (pp. 97–101); Industry statistics (pp. 103–109); and Sources (pp. 111–112). AL

89

Key to quality entrees?
Booth, G.
Food, Flavourings, Ingredients, Packaging and Processing 1 (8) 36 (1980) [En]

Batchelors Catering Supplies Ltd have recently introduced Silver Tray to caterers in the UK as an alternative to frozen or dehydrated foods. Each tray holds 3 kg of product and the portions are served direct from the tray which is disposable. The trays, manufactured by the Central States Can Company, of Ohio, USA, are drawn from tin free steel, measure 10 × 12 × 2 in deep and are lined with white enamel. The shallow cross section of the tray facilitates rapid, even retorting, allowing no time for product breakdown. The product is cooked in the container, the tray being hermetically sealed and seamed using an FMC seamer. The tray is opened with a can opener and the contents heated for about 35 min using standard equipment. The trays will fit bain maries of the Gastronorm type, or individual portions can be taken from the tray and heated in a microwave oven. Energy savings are made in the preparation of the product and in storage, as the trays can be kept for years under normal, dry conditions without refrigeration or deep-freeze facilities. VJG

90

Gefleorten's Dairy Association is enthusiastic about the new ideas concerning computer-operated materials handling and order make-up.
Hansen, R.
Nordeuropaeisk Mejeri-Tidsskrift 45 (9) 223–229, 232 (1979) [En, De, Da] [PB 1648, DK-2720 Vanlose, Jyllingevej 39, Denmark]

In this discussion of the rationalization of internal transport in liquid milk dairies, the lighter 16-litre crate size was a factor considered in a series of progressive measures by Gefleorten's Dairy Association at Gavle, Sweden, processing 155 million kg milk/yr into 82 products. The use of 18-litre plastics bags in special stands (illustrated) at schools is mentioned to replace more expensive individual packs. Problems in the use of heavy roller-containers are considered, as are courtyards free of ice and snow, the use of a proportion of raw milk (100 l in 15 000 l pasteurized milk) for Präst cheese and the possible reorganization of milk collection. Larger suppliers with milking pipeline installations have milk picked up every 1 or 2 days; smaller producers without pipeline installations have collection of some milk every 4th day without the deterioration of milk associated with pipeline milking.
SAB

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FAB 24

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INTRODUCTION

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Some of the larger FABs have been divided into sections to facilitate use. FAB 47 also has a subject and author index provided.

Copies of all original articles referred to in the abstracts may be bought (or occasionally borrowed) from the International Food Information Service. A form for ordering these is provided at the end of this FAB.

Coverage of the subject has been restricted to that of Food Science and Technology Abstracts, which covers over 1200 of the important food journals, patents from 20 countries and books published world-wide. Every effort is made to include all significant references, but editorial discretion is used on the many articles of borderline interest. If the reader particularly needs an exhaustive search of the subject, we will be pleased to provide any other references that we have available. We would, in any case, encourage readers to write or telephone us with any comments or queries that they may have.

H. BROOKES

EDITOR

1

[Results of hygiene analyses in galleys, pantries and storage facilities aboard sea-going ships.] Ergebnisse hygienischer Untersuchungen in Kombüsen, Pantries und Vorratsräumen an Bord von Seeschiffen.
Goethe, H.; Herrmann, R.
Zentralblatt fur Bakteriologie, 1B 171 (2/3) 177–183 (1980) [36 ref. De, en] [Bernhard-Nocht-Inst. für Schiffs- & Tropenkrankheiten, Hamburg, Federal Republic of Germany]

Samples from surfaces in food-preparation and storage facilities aboard 120 sea-going vessels (37 German, 83 foreign) were examined microbiologically. A table of data is given for *Escherichia coli* counts; total bacterial counts were also determined, and samples were tested for salmonellae, *Pseudonomas fluorescens* and *Ps. aeruginosa*. 28.8% of samples from German ships and 29.0% of samples from foreign ships were free from *E. coli;* 15.2% of samples from German ships and 8.1% of samples from foreign ships had *E. coli* counts $>10\,000$/g. Samples from German ships were free from salmonellae; 2 samples contained *Ps. fluorescens* and 1 contained *Ps. aeruginosa*. Salmonellae, *Ps. fluorescens* and *Ps. aeruginosa* were each detected in 1 sample from foreign ships. Only 10% of samples from German ships and 7% of samples from foreign ships had total counts <100/g and were free from *E. coli* and pathogens. Visually-evaluated cleanness of surfaces was not closely related to bacteriological quality. *E. coli* counts of plastics surfaces were approx. double those of wooden surfaces. AJDW

2

Principles of design and operation of catering equipment. [Book]
Milson, A.; Kirk, D.
440pp. ISBN 0-85312-132-X (1980) [many ref. En] Chichester, Sussex, UK; Ellis Horwood Ltd. Price £26.50 [Queen's Coll., Glasgow, UK]

This book is designed for use by advanced undergraduates and offers an authoritative survey of the design and operation of a complete range of catering equipment, and developments made in recent years. It explains the basic concepts of heating and other processes of food preparation and clearly outlines the changes which take place during food processing. Chapters are: Context of equipment studies (pp. 19–23); Mass and heat balances (pp. 25–47, 9 ref.); Fluid flow (pp. 49–74, 2 ref.); Conduction (pp. 75–106, 13 ref.); Convection (pp. 107–158, 22 ref.); Radiation (pp. 159–180, 6 ref.); Microwaves (pp. 181–198, 5 ref.); Freezing and thawing (pp. 199–214, 10 ref.); Multi-mode heat-transfer (pp. 215–237, 17 ref.); Mass transfer (pp. 239–252, 4 ref.); Energy sources and control (pp. 253–284, 1 ref.); Mechanical preparation processes (pp. 285–297, 1 ref.); Food-holding equipment (pp. 299–304, 4 ref.); Food-handling equipment (pp. 305–313, 14 ref.); Dishwashers (pp. 315–320, 3 ref.). 10 Appendices are provided. LH

3

[School milk in lower Saxony on the increase.] Schulmilch in Niedersachsen im Aufwartstrend.
Anon.
Molkerei-Zeitung Welt der Milch 34 (22) 762 (1980) [De]

This description of the IGEMO-Milchwerke Oldenburg eG, which in 1979 processed 58 000 t milk, includes the information that >25% of the children in Lower Saxony drink school milk, and that milk and milk products are delivered there to 3500 schools. SKK

4

[Bacterial flora of frozen prepared dishes.]
Anic, N.; Zivkovic, J.
Prehrambeno Tehnoloska Revija 16 (4) 103–105 (1978) [17 ref. Sh, en] [PIK 'Sljeme', Tvornica Gotovih Jela, Zagreb, Yugoslavia]

A total of 2740 frozen prepared dishes consisting of (i) 1375 meat + vegetable dishes, (ii) 940 meat dishes, and (iii) 425 offal-based dishes were examined. None of the samples contained $>100\,000$ mesophilic bacteria/g. 4 (i), 1 (ii) and 2 (iii) samples were positive for *Escherichia coli* in 0.1 g of sample; and 1 (i), and 3 (iii) samples were positive for sulphite-reducing clostridia in 0.1 g; these 11 samples did not therefore comply with the official requirements. It is concluded that the products of the factory named in the address were of generally satisfactory hygienic quality. SKK

5

[Nutritional value of meat products in school meals.]
Fuchs, G.; Kuivinen, J.
Var Föda 32 (3) 124–129 (1980) [8 ref. Sv, en] [Näringslab., Statens Livsmedelsverk, S-751 26 Uppsala, Sweden]

Studies were conducted on a total of 108 meat products (sausages, liver paste, black pudding, meat balls, minced beef) from school meal programmes in 31 rural districts in Sweden. Data are given showing moisture, protein, fat, ash and Fe concn., and the % collagen in the total protein. The results show that nutritional value of the meat products generally complied with the requirements; 4 samples had excessive moisture contents and 1 an excessive fat content. 28 samples had compositions failing to comply with the declared values. Collagen % in the total protein were within acceptable limits. AJDW

6

Cook/chill foodservice system with a microwave oven: aerobic plate counts from beef loaf, potatoes and frozen green beans.
Dahl, C. A.; Matthews, M. E.; Marth, E. H.
Journal of Microwave Power 15 (2) 95–105 (1980) [41 ref. En] [Dep. of Food Sci. & Human Nutr., Michigan State Univ., East Lansing Michigan 48823, USA]

Microbiological quality and end temp. (ET) of portioned food after heating in a microwave oven as used in a hospital cook/chill foodservice system were evaluated. Beef loaf (15 kg), potatoes (6 kg), and green beans (5 kg) were prepared in a laboratory. After initial cooking to 60° C, and storage (7° C for 24 h), beef loaf (100 g) was microwave-heated: 20, 50, 80 or 110 s. Potatoes were reconstituted, stored (7° C for 24 h), portioned (100 g/portion), and microwave-heated: 25, 45, 65 or 84 s. Beans were thawed (7° C for 24 h), portioned (100 g/portion), and microwave-heated: 20, 50, 80 or 110 s. Aerobic plate counts (APC) for foods were obtained throughout product flow. Wide ranges of ET and of APC in foods indicates that research is needed, for greater control of microwave-heating through advanced microwave engineering and food technology, to produce food with constant microbiological quality. AS

7

[Thermo-physical properties of the PFMS-4 silico-organic thermal agent.]
Belyaev, M. I.; Kiptelaya, L. V.; Shuvalov, V. N.
Izvestiya Vysshikh Uchebnykh Zavedenii, Pishchevaya Tekhnologiya No. 6, 81–82 (1979) [9 ref. Ru] [Khar'kovskii Inst. Obshchestvennogo Pitaniya, Khar'kov, USSR]

Heat conductivity, heat capacity, viscosity and density of the silico-organic heating agent PFMS-4 were determined within the range of 20 to 240°C for the purpose of engineering and design calculations and the choice of operating regimes for jacketed equipment with indirect heating. The above properties were measured at atm. pressure. The heat conductivity decreased with higher temp., but changes within temp. limits of 130 to 240°C were nevertheless negligible. Heat capacity increased with higher temp. The polymethylphenylsiloxane liquid PFMS-4 was found to be suitable as a thermal agent for centralized heat apparatus of communal feeding enterprises. STI

8

Round-the-clock cottage pie!
Anon.

Staff and Welfare Caterer Aug., 24–25, 35 (1980) [En]

The basic principles for cook-chill operations used to prepare food for large establishments are discussed, and an outline of the problems and advantages given. LH

9

Cooking, serving and warm-keeping arrangement.
Kuhn, J. (Heinrich Kuhn Metallwarenfabrik AG)
United States Patent 4 204 609 (1980) [En]

A handleless cooking vessel is described which is nestable inside a serving vessel. The former has a broad grasping rim resting upon a bulge in the rim of the latter. It is also adapted to be closed by a lid, with step-like junction to the vessel. AS

10

Food preparation apparatus and process.
Rubbright, H. A.; Springer, D. A. (Anchor Hocking Corp.)
United States Patent 4 203 486 (1980) [En]

A portable cart with access doors has heater shelves which support trays with food items to be served to the patient. Chilled air for the cart is provided by an air chilling device to a connected plenum chamber. The heating for each food item to be served hot is initiated, time controlled and terminated by a programmed computer which separately controls the operation of the individual heater plates on the heater shelves supporting the trays. RAW

11

Automatic freezer service window aids efficiency in fast-food kitchen operations.
Anon.
Quick Frozen Foods 41 (6) 43, 45–46 (1979) [En]

Burger Chef restaurant in Shippensburg, Pennsylvania is using a foot-pedal-activated freezer window devised by Expertise Assistance, Inc. of York, Pennsylvania in place of standard swinging doors. The window reduces the amount of time the freezer door is open, resulting in a reduction of cold temp. loss. The transparent plastics material provides visual access to the stock prior to opening, contributing to quicker product location. Since the food handler never touches the door handle or door, effective sanitation practices are improved. VJG

12

Self-serving multi-tiered counter display stand.
Arend, R. J.; VerBerkmoes, J. A. (Bastian Blessing Co. Inc.)
United States Patent 4 208 972 (1980) [En]

A counter-top food display stand for self-service is described. It is easily and readily cleaned, preferably multi-tiered, movable, simply constructed, easy to assemble and maintain, provides full viewability, maximizes accessibility and shields for food hygiene purposes. AS

13

Frozen foods help air force missile crews enjoy top-quality meals at remote sites.
Anon.
Quick Frozen Foods 41 (7) 48A, 48C–48D, 48F, 48H (1979) [En]

A description is given of the preparation of foil packs at the Warren Air Force Base, Cheyenne, Wyoming, USA. The foil pack plant prepares, packages and freezes 52 different entrees, vegetables and desserts for maintenance, security and operations crews at remote Intercontinental Ballistic Missile complexes. 42 000 foil packs are packaged during a normal work week. The foil pack plant operates on an 8 wk cycle, 6 wk for production and 2 wk to clean and prepare for the next cycle. VJG

14

Evaluation of the effectiveness of the case study method for teaching decision making in foodservice systems management.
Finley, D.
Dissertation Abstracts International, B 40 (11) 5220–5221: Order no 80-07150, 188pp. (1980) [En] [Univ. of Missouri, Columbia, Missouri 65201, USA]

Improvements in decision making skills of undergraduates were attempted using the case study method of instruction and results determined by comparison of changed scores on 2 standardized tests: LOQ and LEADS, and the scores on a researcher-constructed rating scale, which proved very reliable and was recommended for further study. The students responded favourably to the case study instruction method and requested its continued use. LH

15

Contaminated hospital water supplies.
Black, H. J.; Holt, E. J.; Kitson, K.; Maloney, M. H.; Phillipps, D.
British Medical Journal 1 (6177) 1564–1565 (1979) [En] [Royal Infirmary, Huddersfield, W. Yorks HD3 3EA, UK]

Attention is drawn to the risk of contamination of domestic water supplies used in hospitals, and examples of how this has happened in the past are cited, involving mainly *Pseudomonas* infection. It is recommended that hospital water supplies should be monitored microbiologically and that hospital hot water for domestic purposes should be kept at a temp. high enough to kill vegetative bacteria. LH

16

[Catering systems using ready meals packed in plastics sleeves.] Verpflegungssysteme mit Fertiggerichten in Kunststoffschlauchfolien.
Böhme, C. F.
Fleischwirtschaft 59 (10) 1438–1440; 1513 (1979) [7 ref. De, en] [Zugspitzstrasse 42, 6200 Wiesbaden, Federal Republic of Germany]

A method of cooking prepared meals in Nalophan polyester sleeves (developed by Kalle AG in 1965) was improved to produce ready-to-eat meals and part meals. This allowed the construction of catering systems with good hygiene and high quality food at very low cost. Suitable films, filling temp., methods of manufacture, storage conditions, major fields of application and appropriate storage times are indicated for different types of ready meals (hot, chilled, frozen, semi-preserved, fully preserved). Non-shrink polyester film sleeves can also be used for packaging and storing left-overs. [From En summ.] RM

17

The future of the half steam tray in military feeding based on field tests, experiments, and new products. [Lecture]
Szczeblowski, J. W.
Activities Report 32 (2) 23–31 (1980) [8 ref. En] [Food Eng. Lab., US Army Natick Res. & Dev. Command, Natick, Massachusetts 01760, USA]

Advantages of Tray-Pack, the retortable half-size steam table container, are described, with particular reference to its place in military feeding systems. Field experiments showed good acceptance of the products, including whole meals, and the tray concept. [See FSTA (1981) 13 3G171.] AL

18

Molded pulp tray for beverage and food.
Bixler, K. D.; Ralphs, R. E.; Lord, H. A.; Reifers, R. F. (Diamond International Corp.)
United States Patent 4 208 006 (1980) [En]

A tray of moulded pulp or similar material for take-away foods and beverages is described, comprising 1 or more pockets for receiving and firmly supporting any 1 of several different size containers. The pockets are designed to hold the beverage containers above the floor space, this space serving as a drippage or spillage collector. AS

19

Activities report of the R&D Associates. [Conference proceedings]
United States of America, Research & Development Associates for Military Food & Packaging Systems Inc.
Activities Report 32 (2) iv + 152pp. (1980) [En] [Room 1315, 90 Church Street, New York, New York 10007, USA]

The proceedings of the conference held on 25–27 March, 1980 in Chicago, Illinois, contain papers in workshop sessions on the following themes: Retort pouch and half steam tray (pp. 20–55); Operations research systems analysis (pp. 56–63); Food engineering laboratory (pp. 64–82); Food sciences laboratory (pp. 83–103); Perspectives in food safety (pp. 104–107); and Energy technology applied to food processing and food service (pp. 108–150). The following individual papers are included: Transfer of food inspection authority from the Department of Defense to USDA and what it means to industry, by H. B. Altizer (pp. 3–7). Importance of research and development to the food supply, by S. Goldby (pp. 8–10). Food safety – an overview, by F. J. Francis (pp. 11–15, 4 ref.). The future of the half steam tray in commercial feeding – progress and problems, by K. S. Ferguson (pp. 20–22). The commercial future of the retort pouch – a market analysis, by R. H. Whelan & D. E. Whitehead (pp. 32–35, 2 ref.). Commercialization of the retort pouch in the United States, impact on food container usage and frozen foods, by R. G. Hlavacek (pp. 36–38). New types of products coming in institutional pouches, by H. P. Milleville (pp. 39–40). The present & future of retort pouch packaging equipment considering technological problems, speeds & cost, by W. H. Dahlgren (pp. 41–44). Food service systems design and test: 10 years of accomplishment, by R. Byrne & R. P. Richardson (pp. 60–63). Military foods – 20 year retrospect and prospect, by D. E. Westcott (pp. 68–70). Military packaging – 20 year retrospect and prospect, by G. L. Schulz (pp. 71–77). Equipment – its contribution to better food service, by R. A. Lampi (pp. 78–82). On guard – microbiological safety in military feeding systems, by D. B. Rowley (pp. 92–95, 14 ref.). Accomplishments of the US Army Natick R&D Command, past and present, and their impact on military personnel and on civilian society, by R. L. Hall (pp. 96–103). Food safety – the public interest viewpoint, by J. S. Turner (pp. 104–107). Coping with the energy crisis – one company's approach [Nabisco Inc.], by W. S. Brown, Jr. (pp. 130–135). Energy Management in army food service, by W. Flanagan (pp. 141–143). Energy evaluation of food service equipment and central food preparation system, by K. H. Hu & W. Roberts (pp. 144–150). A further 6 papers are abstracted separately in this issue of FSTA and are in the author index under **United States of America,** Research & Development Associates for Military Food & Packaging Systems Inc. [Spring 1980 Symposium]. AL

20

Role of engineering in the mini-processing and preparation of food for serving. (In *'Food process engineering 1979'*[see FSTA (1981) **13** 4E167].) [Lecture]
Lampi, R. A.; Decareau, R. V.; Hu, K. H.
Abstr. no. 3.0.1 (1979) [En] [US Army Natick Res. & Development Command, Natick, Massachusetts, USA]

Developments likely to result from the change away from labour intensive preparation of mass catering meals in an adjacent kitchen are reviewed, involving new foods or ingredients, equipment and processes. The changes are basically in engineering and technology and examples are presented under categories of systems engineering, innovation in concepts and designs, and adaptation of standard process engineering approaches to food preparation. ELC

21

Individual prepared meal tray.
Bellavoine, R. (De Pruines ISECO SA)
United States Patent 4 217 476 (1980) [En]

A tray storing the various constituents of a prepared meal has a means for taking them to the desired temp. The tray comprises an inner compartment, preferably made of metal and impervious to electromagnetic microwave radiation, which is adapted to contain a dish to be reheated and which has an opening in a side wall for the introduction and withdrawal of the dish. The invention is more particularly applicable to the distribution of meals in hospitals. AS

22

Analysis of food decision-making strategies used for solving a computer based menu planning problem.
Asp, E. D. H.
Dissertation Abstracts International, B 40 (11) 5209: Order no. 80-11759, 355pp. (1980) [En] [Univ. of Minnesota, Minneapolis, Minnesota 55455, USA]

An interactive computer-assisted instructional menu planning programme (MENU) was developed and evaluated for use in studying (i) ability of students and experts to use food decision making knowledge to evaluate a menu, (ii) strategies used to make food choice decisions for a menu, and (iii) achievement of a menu planning instructional unit objective, by students in experimental and control groups using pre- and post-tests. A pilot study to test instruments and statistical procedures, and an experimental study were both done. Conclusions from MENU findings and pre-test work indicated that subjects could use knowledge to exercise judgement and that they performed better on menu revision than on information-type questions. The use of MENU did not increase learning, probably because of the short time spent using it. Thus reorganization of teaching strategies, increased emphasis on nutrition and sensory attribute subject matter, and provision of opportunities to use knowledge to make food choice decisions for menus are recommended for teaching. LH

23

[School catering with chilled foods.] Schulverpflegung mit gekühlten Speisen.
Germany, Federal Republic of, Bundesministerium für Ernährung, Landwirtschaft und Forsten; **Germany, Federal Republic of,** Bundesforschungsanstalt für Ernährung Stuttgart-Hohenheim
Zeitschrift für Ernährungswissenschaft 19 (2) 95–102 (1980) [De]

Some practical aspects of the use of cooked/chilled (2°C) or cooked/pasteurized/chilled foods in school catering operations are described, including microbiological quality, sensory quality, nutritional value, processing methods, labour requirements, time and space requirements, costs of catering using chilled foods, and use of chilled foods in all-day schools. DIH

24

[Fat is being used too long in deep-frying equipment.]
Fornhammar, R.; Rönnegard, J.-O.; Svensson, B.; Sörquist, S.; Töregard, B.
Var Föda 32 (1) 2–8 (1980) [3 ref. Sv, en] [Res. Lab., AB Karlshamns Oljefabriker, S-292 00 Karlshamn, Sweden]

Studies were conducted on the condition of fat in deep-frying equipment used in restaurants, by food vendors, etc. Tables of data are given for the anisidine value, peroxide value, free fatty acid content, polar compound content, organoleptic quality score and foaming characteristics of the fats, together with the duration of use, frequency of cleaning of the equipment, and whether sludge is removed from the fat by filtration. The results show that, on average, the frying fats studied had been in use for 5 days. Mean values (with s.d. in parentheses) for physicochemical characteristics were: anisidine value, 94 (49); peroxide value, 6.8 (7.1); free fatty acids, 0.72% (0.53); and polar compounds, 35.7% (16.8). Approx. 50% of the fats studied failed to comply with guidelines used in the Federal Republic of Germany. Correlations of the flavour of the fat with analytical criteria were too low for use for evaluation of fat quality. Routine evaluation of fat quality on the basis of taste, smoking, discoloration, foaming and sedimentation is recommended, with analysis in cases of doubt. AJDW

25

Food poisoning in hospitals.
Anon.
Lancet **1** (8168) 576–577 (1980) [14 ref. En]

Problems with food poisoning in hospitals are discussed, with reference to the 2 main routes of infection, i.e. introduction of causative organisms (commonly salmonellae) by patients, with subsequent spread; and acute outbreaks caused by contaminated food. Data are presented for the incidence and causative organisms of outbreaks of food poisoning in hospitals in Scotland and in England and Wales, over the period 1973–1977. Factors possibly responsible for the relatively high incidence of food poisoning in hospitals are briefly discussed, with reference to use of poorly-trained staff, poor kitchen facilities, large numbers catered for, relatively long distribution times, and Crown exemption from prosecution. The high incidence of outbreaks in mental and geriatric hospitals is considered. Possible measures for improvement of the situation are discussed. AJDW

26

A caterer's guide to drinks. [Book]
Gregory, C. R.
240pp. ISBN 0-7198-2674-8 (1979) [En] [London, UK; Northwood Books. Price £4.95

This book, intended primarily as a working guide for students and for professional hoteliers, restauranteurs and caterers, includes the following chapters: Background (pp. 11–34); Personnel, training, purchasing, storage and service (pp. 35–57); Marketing of alcoholic beverages (pp. 58–78); Licensing and labelling law (pp. 79–97); Table and sparkling wines (pp. 98–141); Fortified wines (pp. 142–166); Spirits other than liqueurs (pp. 167–186); Vermouths, liqueurs and cocktails (pp. 187–198); Beers and ciders (pp. 199–209); Glossary of wine terms (pp. 210–222); and Glossary of beer terms (pp. 223–225). A 7pp. bibliography and an 8pp. subject index are included. AJDW

27

Energy usage for production of omelets in restaurants.
Unklesbay, N. F.; Unklesbay, K. B.; Benderwald, D. L.; Demmitt, M. E.
Poultry Science 59 (5) 1036–1042 (1980) [16 ref. En] [Dep. of Food Sci. & Nutr., Univ. of Missouri, Columbia, Missouri 65211, USA]

Energy usage was determined for production of 3 kinds of omelettes under actual operating conditions in a fast food and a family dining facility. Information was obtained by on-site data collection during normal breakfast service times within each facility during a 2 wk period. An energy accounting model previously developed for various menu items was used. Omelettes prepared in the fast food facility had a significantly longer heat processing time and used greater amounts of food ingredients/omelette and heavier pans. The family dining situation had a significantly greater energy input due to the use of a larger gas burner. Energy losses $>80\%$ were revealed for all products. Energy/nutrient ratios were reported for MJ expended/kcal and /g of protein at point of service. Recommended changes given for improving energy efficiency included controlling the time the gas burners were ignited, altering the configuration of the pan and the burner, using pans with higher thermal conductivity values, and altering food service procedures to maximize energy efficiencies. AS

28

[Poultry industry and school catering in Slovakia.]
Krekova, M.; Strmiskova, M.
Hydinarsky Priemysel 22 (5/6) 191–201 (1980) [27 ref. Sk] [Vyskumny Ustav Hydinarskeho Priemyslu, Bratislava, Czechoslovakia]

A survey of consumption of poultry, poultry meat products, eggs and egg products in the dining facilities of nurseries, schools, high schools and higher education colleges showed that annual consumption was generally low, ranging from 0.30 to 1.88 kg/head as compared with the recommended value of 8.2 kg/head. The main reasons were: more laborious preparation of dishes from poultry; ignorance of the fact that poultry is economical; knowledge of few recipes for poultry preparation; and little interest shown by the poultry industry. The recommended measures for improving this situation include production, and supply to school kitchens of prepared and convenience poultry meat products. Preliminary evaluation of some of these showed them to have considerable potential. STI

29

Large outbreak of *Campylobacter* enteritis among schoolchildren.
Yanagisawa, S.
Lancet 2 (8186) 153 (1980) [1 ref. En] [Dep. of Paediatrics, Dai-ichi Hospital, Ogori, Yamaguchi, 754 Japan]

A brief account is given of an outbreak of *Campylobacter* enteritis in schoolchildren in Japan. A total of 2500 children (6–15 yr of age) at 2 schools received a school lunch of bread, pasteurized cows' milk, oranges and vinegared pork with vegetables. 800 children showed symptoms of enteritis, a higher proportion of younger than of older children being affected. *Campylobacter* spp. was isolated from stool samples from affected children, and from 2 stool specimens from symptom-free staff at the food preparation centre. No evidence of transmission of the infection to household contacts of the patients was observed. The contaminated food was not identified; the vinegared pork was, however, suspected. AJDW

30

Circular food service conveyor.
Tashman, P.; Onori, V. M.
United States Patent 4 216 845 (1980) [En]

A portable self-supporting food service conveyor has an elongated rectangular table top, supported at each end by box-like pedestal enclosures, in the top of which there is a circular tracking slot with a removable articulated-slat conveyor belt within it. A pair of vertically-spaced, rectangular shelf members are supported above the table top for the temporary storage of condiments and other food portions to be placed on removable trays carried by the conveyor belt. 1 of the support pedestals houses electric drive mechanism for a sprocket chain comprising the articulated conveyor belt and projecting through the conveyor slot. The other pedestal houses a refrigerating compressor and evaporator system with a cooling coil which refrigerates a portion of 1 of the food holding shelves. The conveyor is of particular use for making up individual meal service trays in mass production, e.g. for airline meals or in other public catering institutions. RAW

31

Food serving tray for use in a food preparation unit.
Springer, D. A. (Anchor Hocking Corp.)
United States Patent 4 232 789 (1980) [En]

Food serving tray for use with apparatus for preparing meals in hospitals and public catering establishments is described. The tray has a number of dish size openings through the tray for supporting a dish which has a circumferential notch around its lower portion. The tray has a raised edge and notches in 1 side of the raised edge for guiding the tray along suitable tracks of a heater shelf rack. The tray can include a series of dish or food supporting indents in the tray surface. Half-size trays can also be manufactured. AS

32

[Mixing of heat carrier in a supercharging conduit of a direct heat oven with forced convection.]
Beloborodov, V. V.; Gorbachev, K. M.
Izvestiya Vysshikh Uchebnykh Zavedenii, Pishchevaya Tekhnologiya No. 1, 81-85 (1980) [7 ref. Ru] [Leningradskii Inst. Sovetskoi Torgovli im. F. Engel'sa, Leningrad, USSR]

Results from studies on calculation of the basic parameters of ovens (as described above) can be used in manufacturing apparatus for rapid freezing or thawing of dishes and culinary products in public catering establishments. RAW

33

Food science in catering. [Book]
Robins, G. V.
xix + 234pp. ISBN 0-434-91733-8 (1980) [En] London, UK; William Heinemann Ltd. Price £8.50 [Ealing Coll. of Higher Education, London, UK]

This book is primarily intended for students on Hotel, Catering and Institutional Management courses. It concentrates upon the composition, structure and behaviour of food in relation to most phases of cooking and preparation. Each chapter is organized into 3 levels of complexity, the parts of all chapters being subdivided into concise topic headings, which are extensively cross-referenced to avoid unnecessary duplication. Chapters included are: Food and heat (pp. 1-18). The constitution of food (pp. 19-28). The organic chemistry of food (pp. 29-39). Food groups I: Lipids (pp. 40-67). Food groups II: Proteins (pp. 68-96). Food groups III: Carbohydrates (pp. 97-131). The appreciation of food (pp. 132-147). Additives and contaminants in food (pp. 148-170). The preservation of food (pp. 171-187). Beverages, fermentations and extracts (pp. 188-212). A glossary (pp. 213-221) is included. VJG

34

A comparison of hospital use, food cost, nutrient value, and quality of alternate market forms of selected patient menu items.
Franzese, R.
Dissertation Abstracts International, B 41 (2) 524-525: Order no. 80-17498, 277pp. (1980) [En] [New York Univ., Washington Square, New York, New York 10003, USA]

The first section of this investigation consisted of a survey of all the menu items served to patients on normal diets in 79 hospitals in New York City. Data relating to the ways in which the foods had been prepared, packaged and portioned by the manufacturers were collected. The extent to which convenience foods were offered to the patients was also assessed; findings indicated that more convenience foods were offered at hospitals possessing: centralized (rather than decentralized) systems; chilled (rather than not) food assembly; diposable (rather than reusable) serviceware; and more recently introduced food distribution systems. The second section of the investigation involved studies of the cost, nutrient value and quality of 3 forms of 25 brands of orange juice and of 3 forms of 16 brands of sliced turkey. All the brands studied were known to be offered to hospital patients. The 3 forms of orange juice were: (i) ready-to-serve, portion control; (ii) canned, bulk; (iii) frozen concentrate. The 3 forms of turkey were: (iv) ready-to-cook, bone-in, frozen breasts; (v) ready-to-serve, precooked breasts; (vi) whole, frozen turkey. Costs were highest for (i) and (iv) and lowest for (iii) and (vi). Nutrient assays (ascorbic acid and K in orange juice, protein and thiamin in turkey) revealed no significant differences between forms except for ascorbic acid which was highest in (iii) and lowest in (i). Evaluation by a taste panel resulted in highest scores for (iii) and (v). It is concluded that the cost of the products did not significantly increase with increased nutrient value and quality. JA

35

A comparative analysis of consumers' and food professionals' perceptions of selected factors expected to affect the food service industry of the future.
Durocher, J. F., Jr.
Dissertation Abstracts International, B 41 (3) 876: Order no. 80-20811, 304 pp. (1980) [En] [Cornell Univ., Ithaca, New York 14850, USA]

3 groups were considered within the category of food professional, (i) corporate planner, (ii) food service managers and (iii) food science researchers; (iv) the consumer group was divided into 4 age sets (those under 16 or over 50, or employed in the food field were excluded). Separate questionnaires were developed for (i)-(iv) on topics of food preferences and world food situation. Out of 1000 questionnaires distributed overall response was 52%, with 72% for (iv) and 2% for (ii) (employed in hotels). Means and frequencies for each

set within groups were compared, utilizing the Friedman T and Kendall W tests to determine level of concordance between sets. Subsequent comparisons pitted means on selected questions between groups. Analysis showed that the response across all of the sets within (iv) were comparable; analysis of sets within groups (i)–(iii) indicated a high level of concordance between groups. On testing the hypothesis (that responses of (iv) and (i)–(iii) would be divergent) it was found that there was a high level of concordance between (iv) and (i)–(iii) on their perceptions of current and future world food situations; there was poor concordance regarding the important criteria for selecting alternative protein sources. As (iv) are in a selective position, it is concluded that redefinition of criteria must occur in the kitchens of (i)–(iii). SP

36

Apparatus for basting and displaying foods.
Lents, C. M. (Church's Fried Chicken Inc.)
United States Patent 4 230 066 (1980) [En]

Automatic food basting and display apparatus and method are described for basting a pre-cooked food, e.g. corn-on-the-cob, and maintaining the food at serving temp. up to serving time. The display cabinet has a food support with a rotary carousel for periodically dipping the food in a basting liquid and then draining at a predetermined rate to maintain the food palatable and prevent degradation of the food caused by over basting. AS

37

The contribution of large-scale feeding operations to nutrition. [Review]
Glew, G.
World Review of Nutrition and Dietetics 34, 1–45 (1980) [many ref. En] [Catering Res. Unit, Procter Dep. of Food Sci., Univ. of Leeds, Leeds, UK]

Aspects reviewed are: the origins of the mass feeding industry; meal patterns; present developments in mass feeding in educational establishments, industrial canteens, hospitals, and for elderly people; large-scale cooked food production and service, covering the basic structure of any catering system, conventional catering techniques, the application of food technology techniques to catering in developed countries (cook-freeze, cook-chill and cook-freeze-thaw catering, and the integrated use of convenience foods); and mathematical modelling in menu planning. AL

38

[Effect of culinary processing on retention of group B vitamins. I. Thiamin and vitamin B_6.]
Secomska, B.; Nadolna, I.
Roczniki Panstwowego Zakladu Higieny 30 (6) 559–565 (1979) [18 ref. Pl, ru, en] [Zakladu Wartosci Odzywczych Zywnosci Inst. Zywnosci i Zywienia, Warsaw, Poland]

Various dishes (soups, vegetables, noodles, rice, meat dishes, fish, pies) from a canteen serving 160–200 lunches/day were analysed for contents of (i) thiamin and (ii) vitamin B_6, and levels found were compared with those in the raw materials. Boiling (with subsequent discarding of cooling water) caused the max. loss of both vitamins, averaging 35 and 30% for (i) and (ii), resp. Frying or stewing caused average loss of 30% for both (i) and (ii); and preparation of the soups caused a loss of 20 and 15% for (i) and (ii), resp. HBr

39

Results are in: military gives go-ahead for soy extenders in DOD meals.
Anon.
Food Product Development 14 (3) 34 (1980) [En]

Consumer ratings were obtained from questionnaires developed by the services and distributed according to a systematic method based on anticipated head count in each of 54 dining facilities. The rating was based on a 7-point hedonic scale developed by the services. Results for 100% ground beef and 20% soy-extended ground beef recipes resp. were: creamed ground beef, 5.40, 5.27; meat loaf, 5.07, 5.07; grilled hamburger, 4.62, 4.57; spaghetti/meat sauce, 5.14, 4.98; and chicken-fried beef patties, 5.10, 4.78. As a result of this consumer evaluation the USA Armed Forces approved the permanent use of soy extenders in ground beef products for military meals. VJG

40

[Development and testing of products for school feeding.]
Krekova, M.
Hydinarsky Priemysel 22 (9/10) 339–350 (1980) [12 ref. Sk] [Vyskumny Ustav Hydinarskeho Priemyslu, Bratislava, Czechoslovakia]

The introduction of convenience foods and ready-to-serve dishes for school feeding proved to be a necessity. Frozen ready-to-serve dishes based on poultry meat were favourably accepted. Group packages containing 20 servings proved to be an advantage. It was concluded that provision of poultry dishes for school children would affect favourably the future consumption of poultry meat. STI

41

School milk. [Review]
Mann, E. J.
Dairy Industries International 46 (1) 11–12 (1981) [25 ref. En] [Commonwealth Bureau of Dairy Sci. & Tech., Lane End House, Shinfield, Reading RG2 9BB, UK]

This review article deals with the position of school milk and various milk products used in school meals in a number of countries, including UK, Austria, Belgium, Netherlands, France, Federal Republic of Germany and Kenya. FL

42

Carnitine content of hospital diets. [Lecture]
Borum, P. R.
Federation Proceedings 39 (3, II) 1046 (1980) [En] [Dep. of Biochem., Vanderbilt Univ., Nashville, Tennessee 37232, USA]

Components of 14 normal and modified hospital diets were analysed for carnitine. Animal products had the highest carnitine content of the foods studied; red meats had markedly higher concn. than white meats. Carnitine contents determined included the following (μmol): fish sandwich 9; fried chicken breast serving 13; fried chicken leg serving 29; roast pork serving 215; hamburger 466; and ground beef round 798. Soluble carnitine remains in the whey during processing of dairy products; washed Cottage cheese for low-Na diets has a carnitine content only 10% of that in normal Cottage cheese. Daily intake of carnitine from the various hospital menus studied could vary by a factor of 400. Vegetarian diets contain little if any carnitine. [See FSTA (1981) 13 8A461.] AS

43

[Use of scientific and technical developments in quality control of meals served in catering facilities.] Ausnutzung des wissenschaftlich-technischen Fortschritts zur Sicherung der Speisenqualität.
Zobel, M.
Ernährungsforschung 25 (4) 114-118 (1980) [De]
[Handelshochschule Leipzig, Leipzig, German Democratic Republic]

44

[From the cooker hood to the integrated ventilation ceiling.] Von der Küchenhaube zur integrierten Lüftungsdecke.
Wimböck, G.
Kälte 33 (10) 424, 426 (1980) [De]

Ventilation equipment in kitchens for large-scale catering is described, including large ceiling or wall hoods and ventilation grids. RM

45

[Preparation of meals. Roasting. Calculation of the performance of slow roasting units. Calculation methods for high-capacity food preparation facilities.] Speisenproduktion, Bratbereich, Berechnung der Leistung Langzeitbratgeräte. Berechnungsmethoden der Speisenversorgungssysteme und Grosskochanlagen.
Schwebel, W.
GV-Praxis mit Tiefkühlpraxis 20 (4) 81-82 (1980) [De]

Various types of slow-roasting equipment are considered. Equations are presented (with examples) for calculation of capacity (expressed as total wt., or number of portions), number of roasting containers, and total product output over a specified period. AJDW

46

[Preparation of meals. Steaming. Calculation of required performance of steaming units. Calculation methods for high-capacity food preparation facilities.] Speisenproduktion, Dämpfbereich, Berechnung der Dämpfleistungen. Berechnungsmethoden der Speisenversorgungssysteme und Grosskochanlagen.

Schwebel, W.
GV-Praxis mit Tiefkühlpraxis 20 (3) 97-98 (1980) [De]

High-capacity equipment and corresponding processes for steaming of food are considered, including: steaming in containers in a high-capacity boiling unit; hot-air steaming equipment; and high-pressure steaming equipment. Equations are presented (with examples) for calculation of hourly throughput, number of portions/batch, and production time for a specified number of portion in a steaming unit of specified capacity. AJDW

47

[Automatic cooking units for high-capacity food preparation facilities.] Grossküchen-Garautomaten, Übersicht und Merkmale.
Schwebel, W.
GV-Praxis mit Tiefkühlpraxis 20 (2) 59-60 (1980) [De]

Various types of commercially-available automated cooking units for use in catering facilities, etc. are discussed, with reference to continuous vs. batch operation, cooking methods used, applications, types of container in which the food is cooked, automatic components, and hourly throughputs. AJDW

48

[Development of ancillary equipment in self-service restaurants.] Die auf dem Gebiet der Auftisch- und Bedienungseinrichtungen von Selbstbedienungsrestaurants gezeitigten Entwicklungsresultate. (In *'II. Kolloquium über Lebensmittelmaschinen, Szombathely, 9.-12. 10. 1979'* [see FSTA (1981) 13 8E385].) [Lecture]
Horvath, I.

pp. 341-356 (1979) [De]

Requirements with regard to the equipment needed, storage facilities, and portioning and serving of meals in self-service restaurants are discussed. STI

49

[Mechanization in hospital meal preparation and distribution.] Mechanisierung in der Krankenhausverpflegung. [In *'II. Kolloquium über Lebensmittelmaschinen, Szombathely, 9.-12. 10. 1979'* [see FSTA (1981) 13 8E385].) [Lecture]
Piroska, F.
pp. 10-22 (1979) [De]

Ways of providing individual-patient diets were sought, with particular reference to possible mechanization of distribution. Use of tray-carrying trolleys is recommended. Data are given on diet quality, selection of machines and equipment, and distribution time/mechanization relationships. STI

50

[Practical hygiene for caterers. Milk and milk products.] Hygiene-Praxis der Großküche. Milch und Milcherzeugnisse.
Bertling, L.
GV-Praxis mit Tiefkühlpraxis 19 (12) 47-48; 20 (1) 39-40 (1979; 1980) [De]

This work-sheet for caterers gives information on the various milk products available in the Federal Republic of Germany, in the following categories: liquid milk (certified, pasteurized, UHT and sterilized); traditional German cultured milks (Sauermilch, Dickmilch); yoghurts; kefirs; buttermilks; cream (including cultured cream and whipping cream); protein-enriched products; evaporated milk products; sweetened condensed milk products; dried milk products; whey products; lactose (medical, food-grade and crude); milk protein products (milk protein and water-soluble milk protein, with ≥70% protein and ≤1.5% fat; caseinate; and caseins); acid-curd quargs; and mixed products (milk drinks etc., which may contain ≤30% non-milk ingredients, but not non-milk protein or vegetable fat). The main points to look out for in labelling are indicated, and important rules for storage and handling of the products are given. Milk products are regulated by the Milk Products Ordinance of 13 Aug. 1979. ADL

51

Hospital ready-prepared type foodservice system: time and temperature conditions, sensory and microbiology quality of scrambled eggs.
Cremer, M. L.; Chipley, J. R.
Journal of Food Science 45 (5) 1422–1424, 1429 (1980) [13 ref. En] [Ohio State Univ., Ohio Agric. R&D Cent., School of Home Economics, 1787 Neil Avenue, Columbus, Ohio 43210, USA]

Time and temp. conditions and sensory and microbiological quality of scrambled eggs were examined (3 trials) at various phases of product flow in a hospital, "ready prepared" type foodservice to assess food quality as related to the system of operation. Average time from cooking to reheating for service was 26.3 h. Mean internal temp. were 10.6°C after 10 h refrigerator storage, 11.8°C at the beginning of assembly, 13.8°C after transportation for storage, and 5.2°C after 15 h additional storage. After reheating eggs in microwave ovens, internal temp. ranged from 35 to 92°C, average 67.1°C. Overall mean scores for sensory characteristics evaluated ranged from 6.9 to 8.1 (9-point scale). Total plate counts indicated that microbial quality of eggs was good both before and after cooking, but a variety of microorganisms was associated with the product. In uncooked eggs, these included *Bacillus* sp., *Clostridium sporogenes*, micrococci, including *Micrococcus luteus*, *Staphylococcus aureus*, *S. epidermis*, *Escherichia coli*, *Enterobacter aerogenes*, *Proteus* sp., and *Alcaligenes* sp. At heating for service, eggs contained small numbers of *Bacillus* sp., *C. sporogenes*, *S. epidermidis*, *Escherichia coli*, and *Enterobacter aerogenes*. Low microbial counts within this system may be attributed to use of a pasteurized raw product and limited contamination, since time and temp. conditions were favourable for microbial growth. IFT

52

Time and temperature, microbiological, and sensory assessment of roast beef in a hospital foodservice system.
Cremer, M. L.; Chipley, J. R.
Journal of Food Science 45 (6) 1472–1477 (1980) [30 ref. En] [School of Home Economics, Ohio State Univ. Columbus, Ohio 43210, USA]

Time and temp., microbiological and sensory assessments were made of roast beef in a "Ready-Prepared" type foodservice system to determine critical points in operation. Time from the end of roasting to heating for service was about 45 h. This included 3.5 h holding at room temp. and 2 periods where after 15–20 h refrigerator storage, mean temp. were 8.2 and 7.6°C resp. After microwave heating at service, temp. ranged from 43° to 93°C. Total plate counts indicated <200 microorganisms/g before and after roasting but a 3–11 × increase occurred from roasting to heating for service. Unusually large numbers of *Staphylococcus epidermidis* were found in cooked meat due to contamination introduced during the slicing operation and the time of storage at temp. which would permit active growth of this organism. Also, cooked meat was found to contain *Bacillus* sp., *Clostridium sporogenes*, *C. perfringens*, *S. aureus*, as well as small numbers of *Penicillium* sp. Overall mean scores for sensory characteristics ranged from 6.6 to 7.5 (9-points scale). Data indicated that prevention of microbial contamination and control of internal temp. during storage, holding, and heating for service are critical in this system of operation. IFT

53

[Equipment for communal feeding establishments. Containers: basic dimensions.]
Hungary, Magyar Szabvanyügyi Hivatal
Hungarian Standard **MSZ KGST 762-77,** 2pp. (1977) [Hu]

54

[Equipment for communal feeding establishments. General containers. Basic and technical requirements.]
Hungary, Magyar Szabvanyügyi Hivatal
Hungarian Standard **MSZ KGST 763-77,** 6pp. (1977) [Hu]

55

[Equipment for communal feeding establishments. Modular equipment. Basic dimensions.]
Hungary, Magyar Szabvanyügyi Hivatal
Hungarian Standard **MSZ KGST 764-77,** 8pp. (1977) [Hu]

56

[Meat mincers for communal feeding establishments. Technical requirements.]
Union of Soviet Socialist Republics, Gosudarstvennyi Komitet SSSR po Standartam
Soviet Standard **GOST 7411-79,** 11pp. (1979) [Ru]

57

Microwaves for catering.
Giles, P.
Frozen Foods 33 (5) 32 (1980) [En]

Advantages of microwave ovens for catering purposes, features of a typical microwave cooker suitable for catering, and the use of microwave ovens for defrosting frozen food are discussed. AL

58

[Intensification of some processes in the canning of foods for institutional feeding.]
Anisimov, V. Ya.; Borchenkova, L. A.; Volodz'ko, G. V.; Leonov, I. T.; Odintsova, N. A.
Konservnaya i Ovoshchesushil'naya Promyshlennost No. 5, 9–10 (1980) [Ru] [Vses. Nauchno-issled. Inst. Konservnoi Promyshlennosti i Spetsial'noi Pishchevoi Promyshlennosti, USSR]

Some improvements in making canned products e.g. borshch, marinated vegetables with tomatoes, beets as a portion of the dish, vegetable puree with tomatoes, and carrot puree, are discussed; these improvements permit full mechanization. The processes include steam peeling, cutting, thermal processing and extrusion. The productivity rises two-fold with savings of 3.4–10.0% vegetables/t. STI

59

Planned to perfection!
Anon.
Staff and Welfare Caterer March, 11–12 (1981) [En]

In order to avoid wastage, Queen Alexandra's Hospital, Portsmouth (serving 1500 main meals daily) has introduced a system of computer menu selection, whereby patients mark their food choice on a specially formulated selection card. The card is fed through a computer, and tight control over diets, quantities etc. is maintained. The meal is ordered only a few hours before it is required, giving potential improvement in quality of the foods. The system is flexible, quick, and economic. LH

60

[Consumption of poultry in restaurants.]
Leseur, D. R.
RTVA 19 (160) 17–19 (1980) [Fr]

Use of poultry in restaurants, etc., is discussed with reference to: general hygiene requirements; pre- and post-mortem inspection of poultry at the slaughterhouse; microbiological standards; presentation and transport conditions for raw poultry; commercial specifications for poultry; labelling requirements; nutritional aspects; and cooking and serving of poultry and poultry-based products. AJDW

61

[Inspection and control of poultry meat supplied for institutional catering.]
Parisi, E.; Julini, M.; Saracco, M.
Industrie Alimentari 19 (12) 948–950 (1980) [It]
[Istituto di Ispezione degli Alimenti di Origine Anim., Univ. degli studi di Torino, Turin, Italy]

The hygienic control of chicken and turkey is discussed on the basis of examination of meat and carcass samples between Sept. 1979 and Aug. 1980. Practical hints are given from the institutional caterer's viewpoint in cases of superficial or internal putrefaction, freezer burn, or bruising and bleeding of carcasses. KME

62

Instant menu costing.
Anon.
Catering and Hotel Management 52 (11) 23–24 (1980) [En]

Recosting recipes and staff meal prices when an increase in ingredient prices occurs is a problem which has been considered by the Cambridge Health District catering department and the Regional Health Authority. An ICL computer with ingredient and recipe files has been installed in catering establishments, and can quickly change prices charged to staff for meals (few days vs. few wk), and thus reduce possible losses. Details of the computer operation are given. LH

63

The individuality of regional dishes.
Anon.
Catering and Hotel Management 52 (10) 37 (1980) [En]

Adaptation of local recipes to large scale catering needs is considered. An example is the use of carbonade of beef made with King and Barnes brown ale (local to Horsham, Sussex) on long haul flight menus. Local variations in Bowyers black puddings accentuate regional preferences, that made in Liverpool being spicier than that made in S. England. Top Choice have begun producing local puddings (e.g. bread and butter pudding based on a Sussex recipe, and baked apples) on a large scale, though special equipment and care are needed. LH

64

Water and energy conservation system for food serving establishments.
Papadakos, J.
United States Patent 4 246 764 (1981) [En]

Water and energy conserving apparatus is described, which supplies pre-heated water to a hot water heater and cools ≥ 1 refrigeration unit using a compressible medium, as used in a food serving establishment. AS

65

Plate warmer.
Vandas, E. B. (McGraw-Edison Co)
United States Patent 4 246 884 (1981) [En]

A plate warmer with a heat storing core material for releasing heat to food on the dishware over an extended period of time, i.e. > 30 min, and a method of making the plate warmer are described. The apparatus can be used in hospitals and public catering establishments. RAW

66

When staff must be wooed to vending.
Anon.
Catering and Hotel Management 52 (10) 33 (1980) [En]

The introduction of a vending machine system into a hotel, for producing staff meals, is considered. Users attitudes are discussed at special sessions, and advantages and disadvantages of the system explained. Meal quality, choice and freshness can be more readily monitored by this system. The greatest drawback in the staff opinion was danger from microwave oven usage, so regular checks were promised. LH

67

Marketing opportunities for the retort pouch.
Heintz, D. A.
Food Technology 34 (9) 32-38, 102 (1980) [2 ref. En] [Flexible Packaging Div., Reynolds Metals Co., 6601 W. Broad Street, Richmond, Virginia 23261, USA]

This paper begins by examining lifestyle and demographic changes in the USA in recent yr which have generated a shift in the consumer's real and perceived needs for food products; such changes include the trend toward smaller families, the changing age composition of the population, increase in the number of working women and increasing living standards. The relative status of canned and frozen foods in retail grocery distribution in the USA is then evaluated. This is followed by a discussion of the retort pouch, consideration being given to its construction and properties and also to its advantages (e.g. to the consumer, processor and retailer). The use of retort pouches for US military rations is discussed and consideration is also given to the use of the retort pouch by 6 USA and Canadian firms for the retail market; photographs of various retort pouches are included. The 6 firms are: ITT Continental Baking Co.; Kraft Inc.; Magic Pantry Foods Inc. (subsidiary of United Biscuit); Specialty Seafoods; Libby, McNeill & Libby Inc.; and Hormel Inc. The foods packaged in retort pouches by these firms include entrees, salmon and salad dressings. Food service applications of the retort pouch and possible future developments in pouch technology (e.g. high speed form/fill/seal machines for the retort pouch, high speed continuous retorts) are also considered. JA

68

Critical factors in filling and sterilizing of institutional pouches.
Beverly, R. G.; Strasser, J.; Wright, B.
Food Technology 34 (9) 44-48 (1980) [En] [FMC Corp., 1185 Coleman Avenue, Santa Clara, California 95052, USA]

Institutional pouches are large (≤12 × 18 in) flexible packages made of a lamination of plastics films and Al foil and capable of withstanding thermal processing; use of such pouches is still at the development stage. Such pouches offer economic and other potential advantages (e.g. ease of opening and disposal, improved product quality, low wt.) over conventional No. 10 cans. In order to achieve these potential benefits, careful consideration must be given to 3 critical factors which are known to affect the adequacy of the sterilization process, product quality and the economics of the system. These 3 factors, namely pouch thickness, residual gas levels in the pouch and pouch size, are discussed in this paper. Aspects covered include: proper and improper methods of confining pouches in retort racks and the subsequent effects on pouch thickness and processing time; factors affecting the thickness of confined and unconfined pouches; effect of pouch thickness on the heating slope in the retort; time of exposure of the product to heat during retorting of confined and unconfined pouches and of cans; effect of fill vol. on pouch thickness; effect of residual gas on processing time and product quality; effect of residual gas and product temp. on pouch thickness; and detrimental effects of overfilling pouches. JA

69

Food and beverage control. [Book]
Kotas, R.; Davis, B.
viii + 179pp. Ed. 3 ISBN 0-7002-0277-3 (1981) [En] Bishopbriggs, Glasgow, UK; International Textbook Co. Ltd. [Dep. of Hotel, Catering & Tourism Management, Univ. of Surrey, Guildford, Surrey, UK]

This book, a successor to an earlier volume dealing only with food cost control, is a detailed exposition of the techniques relevant to food and beverage control, aimed at students and practitioners of hotel and catering management. Chapters are devoted to: Introduction, including some discussion of problems; Elements of cost; Cost dynamics; Budgeting for food and beverage operations; Purchasing; Receiving; Storing and issuing; Preparing, including the use of standard recipes, yield testing and standard portion sizes; Selling; Controlling; Control of labour; and Revenue control. An index (pp. 177-179) is included. JRR

70

[Communal catering. Economic aspects.]
Bassecoulard-Zitt, E.
Alimentation et la Vie 68 (1) 3-15 (1980) [10 ref. Fr] [INRA Economie, Unite de Nantes, France]

71

[Account of 4 years of bacteriological control in communal catering. Methodology.]
Luquet, F. M.; Guerin, M. S.; Goussault, B.; Billaux, F.
Alimentation et la Vie 68 (1) 16-21 (1980) [Fr] [Inst. Sci. d'Hygiene Alimentaire, Rue de Chemin Blanc, BP 138, 91160 Longjumeau, France]

This survey contains tables showing the catering establishments subject to official bacteriological control, the types of establishment, French legislation (1974) relating to cooked foods, categories of foods subject to control, counts of pathogenic staphylococci, faecal coliforms and *Clostridium perfringens* in 2743 samples of cooked foods, and the % of samples exceeding the permitted levels of faecal coliforms (<10/g). This dropped from 24.6% in the 2nd half of 1976 to 6.2 in the 1st half of 1979. RM

72

[Food poisoning in communal catering. Account of 4 years of control.]
Guerin, M. S.; Luguet, F. M.; Goussault, B.; Billaux, F.
Alimentation et la Vie 68 (1) 22-29 (1980) [30 ref. Fr] [Inst. Sci. d'Hygiene Alimentaire, Rue de Chemin Blanc, BP 138, 91160 Longjumeau, France]

Results from 4 yr investigations into outbreaks of food poisoning in various catering establishments (restaurants, schools, hospitals) in the Paris region are reported. They included questionnaires to consumers, to kitchen staff, and bacteriological control data. Tabulated data showed that food poisoning was caused by meat products (14 cases), poultry (1 case) and pastry (1 case). The organisms responsible were staphylococci (3), *Clostridium perfringens* (13, all in meat and poultry products), and 3 unidentified. RM

73

Activities report of the R&D Associates. [Conference proceedings]

United States of America, Research & Development Associates for Military Food & Packaging Systems Inc.

Activities Report 33 (1) iv + 132pp. (1981) [En] [Room 1315, 90 Church Street, New York, New York 10007, USA]

This report of the proceedings of the Fall 1980 meeting, held on 8-9 Oct. 1980 at Natick, Massachusetts, on the theme 'Readiness through research' contains papers under the following workshop session themes: New combat feeding systems - can we win the first battle? (pp. 18-31); New food processes and products - the role of the compressed foods down the road 4-5 years (pp. 32-44); New concepts in tactical food service and sanitation equipment (pp. 45-58); Industry trends and forecasts in food packaging in the 80's (pp. 59-84); and Prediction of the shelf life of military rations (pp. 85-121). 2 papers from the Spring 1980 meeting [see FSTA (1981) 13 3G171] on the theme 'Perspectives in food safety' are also given (pp. 122-130). The following individual papers are included. A logistician's assessment of DOD's [Department of Defence] food R&D program, by H. B. Altizer (pp. 3-5, 8). Status of military meal-ready-to-eat (MRE) procurement, by W. J. Hennessy (pp. 9-10). The retortable pouch - a product in search of a home, by J. T. Davis (pp. 11-17). New concepts in feeding army and air force troops in combat, by G. Hertweck (pp. 19-22). New Marine Corps containerized galley for converting container ships to troop carriers, by P. Leitch (pp. 23-26). A new concept for feeding Air Force ground launched cruise missile personnel, by R. P. Richardson (pp. 27-31). Development of compressed foods for military food service systems, by Abdul Rahman (pp. 32-34). Field testings of compressed foods in the prototype emergency/assault packet, by P. L. Caron (pp. 35-41). Future of compressed foods from industry's viewpoint, by M. Byer (pp. 42-44). Introduction and criteria for tactical group feeding equipment, by R. A. Lampi (pp. 45-48, 54). Current military food service equipment developments, by J. K. Prifti, Jr. (pp. 49-54). [Continued in following abstr.] AL

74

Activities report of the R&D Associates. [Conference proceedings]

United States of America, Research & Development Associates for Military Food & Packaging Systems Inc.

Activities Report 33 (1) iv + 132pp. (1981) [En] [Room 1315, 90 Church Street, New York, New York 10007, USA]

[Continued from preceding abstr.] Implementation of federal goals by food equipment manufacturers, by F. Gilkey (pp. 55-58). New developments keep flexible packaging young, by R. Lillquist (pp. 59-63). Packaging for the 80's - a lot more than just a package, by R. B. Holmgren (pp. 64-68). Food package predictions for the 80's, by B. Miyares (pp. 69-71). Packaging technology: tighter economics in the 80's, by R. J. Kelsey (pp. 72-75). New marketing developments in flexible packaging for shelf stable foods, by D. A. Heinz (pp. 76-84, 3 ref.). Introduction: the problem in maintaining quality in reserve stocks, by J. W. Giffee (pp. 85-86, 108). Aids and handicaps to the prediction of military ration shelf life, by W. L. Porter (pp. 87-108, 45 ref.). Packaging as a determinant in food shelf life, by S. J. Hotchner (pp. 109-116). Prospects for improving state of the art of predicting shelf life, by A. A. Kopetz (pp. 117-121, 7 ref.). Food safety: the social and economic perspective, by S. E. Stumpf (pp. 122-127). Food safety: the industry perspective, by R. L. Hall (pp. 128-130). AL

75

Mineral element composition of Finnish foods. X. Industrial convenience foods, quantity service foods and baby foods. [Lecture]

Varo, P.; Nuurtamo, M.; Saari, E.; Koivistoinen, P.

Acta Agriculturae Scandinavica Supplement 22, 141-160 (1980) [15 ref. En] [Dep. of Food Chem. & Tech., Univ. of Helsinki, SF-00710 Helsinki, Finland]

Samples of a total of 65 commodities including 25 common main dishes from 4 catering services, comparable foods from the production line of 4 major industrial manufactures of convenience foods (frozen or canned), and one sample of each type of baby food available, were pretreated and analysed for ash and mineral contents. Potato samples were prepared as: raw unpeeled, raw peeled, cooked unpeeled, cooked (peeled before cooking), cooked (peeled after cooking), and peels of cooked potato, and analysed for the influence of preparation on ash and mineral content. No losses of minerals were observed due to preparation of catering service foods (which contained similar mineral levels to industrial convenience foods), but levels of Fe, Cr and Co rose. Baby foods have high water contents and thereby low mineral levels. Peeled cooked potato had approx. 20% lower mineral concn. than raw potato. [See FSTA (1981) 13 10A606.] LH

76

[Fluoridized milk.]

Kozma, P.

Tejipar 29 (3) 68-70 (1980) [12 ref. Hu] [Zala Megyei Tejipari Vallalat, Zalaegerszeg, Hungary]

This review discusses the relationship between fluorine and dental health, the advantages and disadvantages of fluoridation of milk, and the effects of fluoridation on its properties. The various methods of fluoridation are described, and information is given on milk fluoridation projects in various countries, including an experimental project in the Zala area of Hungary involving addition of fluoride (as 1.1% NaF solution) at 5 mg/l to school milk. ADL

77

It's "Animal Magic" for Strathclyde's schoolchildren!

Jeffries, R.

Milk Industry 83 (5) 12-15 (1981) [En]

The author describes the distribution of school milk by Scottish Farm Dairy Foods Ltd. to primary schools in Strathclyde, Scotland. The milk is packaged in Tetra Brik cartons overprinted with 18 different animal designs, and is delivered to schools in shrink-wrapped packs of 24 for storage in refrigerated cabinets installed free of charge by the supplier. By Feb. 1981 over 100 cabinets had been installed and another 200 were on order. The use of shrink-wrapped packs eliminated the need for plastics trays, enabled the load of delivery vehicles to be increased and stopped pilfering, whilst the provision of refrigerated cabinets enabled deliveries to be reduced to 3/wk, and it is hoped to reduce them to 2 in the near future.   FL

78

Economies of central meat preparation.
Anon.
Catering and Hotel Management 52 (8) 13–14 (1980) [En]

The Southampton Health District's catering department, after doing an economic study, has extended one of its catering outlets to handle the 26 t of meat, poultry etc. needed/month, to feed its patients. A refrigerated van of 1.5 t capacity has also been bought to ensure early dispatch of meat in top condition. Cuts and packs of meat used are listed. A purchasing agent is retained, to coordinate the bulk buying. Financial details of the operation are outlined, and the total savings/yr (on trading account, staff and meat purchasing) estimated as £73 000.   LH

79

[Changes in nutritional value of foods handled in catering establishments.]
Jonsson, L.
SIK Rapport No. 482, 46pp. (1980) [85 ref. Sv, en] [SIK – Svenska Livsmedelsinst., Fack, S-400 23 Göteborg, Sweden]

Studies were conducted on effects of food preparation, warm-holding and distribution methods and conditions, as used in catering systems (e.g. in hospitals) on the nutritional value of various foods (including potatoes, cod, and peas). Effects on protein content, protein quality, amino acids, fat, fatty acids, vitamin B_6, ascorbic acid, moisture content and wt. loss are considered; tables and graphs of data are given. Appreciable losses of nutrients were observed due to over-cooking, and holding and/or distribution of the prepared foods for too long and/or at excessive temp. Cook-freeze systems are superior to conventional warm-holding systems, provided that the food is not held for an excessive time after thawing and reheating. Cook/chill systems were superior to warm-holding only if air was excluded. Ascorbic acid concn. was found to be significantly correlated with organoleptic properties (especially flavour), suggesting involvement of O_2-sensitive compounds in organoleptic deterioration. Recommendations are made for improvement of food preparation, holding and distribution methods and facilities for use in catering establishments.   AJDW

80

[Rapid method for the determination of surface-active substances on dishes.]
Efimova, G. V.
Gigiena i Sanitariya No. 4, 43–44 (1980) [11 ref. Ru]

A simple, rapid method is described for detecting surfactants on dishes or in liquids in public catering establishments. 3 ml 'azure' dye [not further specified] or methylene blue solutions are dispersed over the surface of a plate; 5 ml chloroform are added, the plate again being vibrated to disperse the liquid over its surface (2 min). The remaining liquid is poured off, and the chloroform layer is made up to 5 ml with the chloroform previously used to rinse the plate. The lower chloroform layer is drawn off and examined for colour intensity: lowest detectable amount of surfactant was 2 µg using azure, and 4 µg using methylene blue. Method is also briefly described for producing a standard solution using 'spetsial'naya-2' paste, a synthetic cleaning agent (SCA); the standard can then be used when testing the dishes. The method has an accuracy of 10 µg for dishes rinsed in an SCA solution.   RAW

81

Tokyo drives in to fast food bonanza.
Anon.
Fast Food Dec./Jan., 15 (1979/1980) [En]

Fast food is the most rapidly growing sector of the food industry in Japan. Tabulated data show the expansion plans (number of companies, number of establishments year ending 1978, new openings 1979, and rate of increase 1979/1978) for Western fast food chains (hamburgers, doughnuts, ice cream), Japanese fast food chains (Sushi, gyudon, and ramen), Western-style family restaurants, Japanese-style food, Chinese restaurants, beer halls and coffee shops.   VJG

82

Evaluating convenience foods for use in systems.
Frame, C. J.
Journal of Foodservice Systems 1 (1) 9–16 (1980) [En] [ARA Food Services Co., Philadelphia, Pennsylvania 19106, USA]

Evaluating the use of convenience foods (any food product which has been processed in such a manner as to reduce subsequent processing by the end user) for foodservice systems, is discussed under headings of: benefits of using convenience foods, convenience foods in foodservice systems, and evaluating convenience foods (for menu expansion or for menu substitution). LH

83

Designing for accessibility – despite the site.
Anon.
Fast Food Dec./Jan., 25–26 (1979/1980) [En]

Consideration is given to the design of fast food units, in particular the position of the counter relative to seating and front window and the visual communication of the system to the consumers. Descriptions are given of some fast food units, including Burger King.   VJG

84

Changing the image of cafeteria service.

Anon.

Fast Food No. 4, 67, 69, 71, 73 (1979) [En]

The manner in which 3 High Street chains (Oodles, the country food restaurant chain, Farmhouse restaurants, and the Hasty-Tasty chain) plan their cafeteria service counters, and the menus served are described. VJG

85

Fast food – following the British tradition.

Anon.

Fast Food Dec./Jan., 30, 34 (1979/1980) [En]

A new fast food experiment is being carried out at the Jolly Friar, Altrincham, Cheshire, where a traditional pub is combined with a fish and chip restaurant. The restaurant area is divided from the bar by wooden trellising, but there is also a screened off seating area. The menu, based on Harry Ramsden's, provides cod, plaice or haddock, served with chips and bread and butter, with traditional mushy peas. VJG

86

Chef & Brewer bring in second generation Fast Food.

Anon.

Fast Food Dec./Jan., 43, 45, 49 (1979/1980) [En]

After gaining the franchise rights to develop the American Burger Queen concept in the UK, Chef & Brewer opened the first unit, renamed Huckleberry's, in Wood Green. The unit was fitted out with identical kitchen equipment to the US Burger Queen. A description is given of the premises and its equipment. The menu at Huckleberry's includes 5 burgers: standard burger; cheeseburger; double cheeseburger; double decker, and the Huckleburger (a ¼ lb burger with tomato, onion, lettuce, 2 slices of cheese, salad dressing and dill pickles). Other items include fish sandwich, deep fried Norwegian cod on rye bread, fish'n fries and crispins, Huckleberry chicken, hot apple pie and beverages. VJG

87

Matching the pace at Britain's first 'theme' park.

Anon.

Fast Food No. 4, 25, 27, 31, 33 (1979) [En]

A description is given of the catering facilities at the Thorpe Park Leisure Complex, near London. A combination of catering operations including a fast food bar beside a traditional pub (with non-traditional disposable ware) and various mobile units form a revenue-generating focal point. VJG

88

Four star fast feeding.

Anon.

Fast Food No. 4, 18, 20, 22 (1979) [En]

The thinking behind developments such as Crest Hotels' Pantry all-day self-service units is presented. The Pantry unit operated at the company's 325 bedroom London Eurocrest Hotel in Wembley is an example of a fast food unit in a large hotel which has to handle customers in large and often unpredictable numbers. The aim is to provide good food, fast service in an informal situation and at a reasonable price. VJG

89

Giving a lift to pancake sales.

Anon.

Fast Food No. 4, 77, 79, 81 (1979) [En]

In the UK there are few small takeaway units specializing in pancakes or crepes. High Street catering outlets like Old Kentucky, Golden Egg, Little Chef and Happy Eater have a small range of Anglo-American pancakes. The pancake selections produced by Tennessee Pancake House restaurants and the creperie back-up service of UKater are discussed. The My Old Dutch operation with its systematic approach to pancake preparation and presentation is described; with its 2 unit operation in London it produces 67 savoury and 40 sweet pancake types. VJG

90

Pizza and puppets pull in profitable family trade.

Anon.

Fast Food Dec./Jan., 51, 53, 55 (1979/1980) [En]

The possibility of introducing into the UK the Pizza Time Theatre idea, which involves amusement machines and an 'electronic theatre' of computerized puppets like Chuck E. Cheese, Mr Munch and Pasqually, is considered. The Pizza Time Theatre, a restaurant chain currently operating 7 units in California, surrounds the large seating area in the centre with a theatre of singing, talking and moving 3-dimensional animated characters. Every few minutes the lights dim and the characters break into one of 12 different programmes synchronized to a 4 track sound reproduction. The Pizza Time Theatre idea would seem to have a lot of scope on the UK market because they are in a totally enclosed building, could be sited in first and second generation supermarkets which are no longer popular with developers, and it provides non sports-based family entertainment. The menu is typical of a pizzeria. To ensure that customers get their food orders, television screens flash up ticket numbers to inform customers that their order is waiting. VJG

91

Alkaline phosphatase activity in transparent milk and cream.

Linden, G.; Paquet, D.

Journal of Dairy Science 64 (4) 568–571 (1981) [9 ref. En] [Dep. of Applied Biochem., Univ. of Nancy-1, 54037 Nancy, France]

To control pasteurization of milk and cream, a method is described that requires preparation of only 2 mixtures: a buffer-substrate (diethanolamine/HCl containing *p*-nitrophenylphosphate) and a dissolving mixture (triton/cyclohexanone/n-butylamine/HCl). The latter is a solution producing transparency at 37°C and also stops the enzymic reaction. This method increased sensitivity 2.5× compared with the International Dairy Federation official method. Its high sensitivity and its simplicity favour its use on a large scale by industrial laboratories. AS

92

[School milk congress held 11-12 May 1981 in Giessen, Federal Republic of Germany.] Der Schulmilch-Kongress in Giessen. 11.-12. Mai 1981. [Conference proceedings]
Renner, E.
Deutsche Milchwirtschaft 32 (19) 687-688, 690-692, 694-696, 701-704 (1981) [De] [Justus-Liebig-Univ., Giessen, Federal Republic of Germany]

Abstracts are given of the following papers presented at the Congress: Nutrition of schoolchildren, by E. Renner (p. 687). School milk in the individual Länder of the German Federal Republic, by U. Kosmak (p. 687). School milk in Austria, by A. Eder (pp. 687-688). Advisory work on sensible nutrition in the school, by G. Trurnit (p. 688). Health education in connection with school milk and school breakfast, by W. von Freytag-Loringhoven (p. 688). School milk in Bavaria, by A. Bauman (p. 690). School milk in Hessen, by R. Meissner (pp. 690-691). School milk in Baden-Württemberg, by G. Völlm (pp. 691-692). Healthy breakfast - a promotion programme in Nordrhein-Westfalen, by H. Kalkhoven (p. 692). Provision of school milk-suggestions, comparisons and criticism, by H. Schweer (p. 692). Distribution of school milk by W.-R. Thym (pp. 692, 694). Sale of school milk by pupils, by W. Hoch (p. 694). Provision of food during breaks in Bavarian schools, by H. S. Grünert (pp. 694-695). School milk from the parents' viewpoint, by H. Schmitt (p. 695). New system for distributing milk in kindergartens and schools, by L. Gömmer (pp. 695-696). Energy-reduced flavoured milks in the school, by E. H. Reimerdes & N. Scholz (p. 696). Costs of alternative marketing measures for school milk, by H. Wietbrauk (pp. 696, 701). Organizational problems with school milk, by D. Töter (p. 701). A marketing concept for school milk, by D. Ott (pp. 701-702). Distribution of school milk, by V. Wenk (p. 702). Stimulating sales of school milk in Essen and Kassel, by C. W. Schoberth (pp. 702-703). FL

93

Food preparation apparatus.
Springer, D. A. (Anchor Hocking Corp.)
United States Patent 4 254 824 (1981) [En]

Apparatus for preparing cooked or heated meals includes a food and beverage cabinet with heater shelves, the shelves including spaced heater elements heated by a film heater; silicone rubber secures the film heater to the heater elements. The apparatus can be used in public catering establishments, etc. RAW

94

Self-service replenishable food cabinet.
Plattner, R. F.; Arend, R. J.; Verberkmoes, J. A. (Bastian Blessing Co. Inc.)
United States Patent 4 250 955 (1981) [En]

A series of like-shelved, convertible refrigerating and heating cabinets, accessible from either one of 2 sides through self-closing glass doors for self-service and replenishment of prepared food and drinks, following a door opening of any duration over 000 ods of intermittent replenishing, dispensing and storage conditions, provides fast automatic rapid air condition recovery for uniformity of refrigeration, or heating, and/or humidification of miscellaneous food products displayed. The cabinet can be used in public catering

95

Space shuttle food processing and packaging.
Bourland, C. T.; Fohey, M. F.; Rapp, R. M.; Sauer, R. L.
Journal of Food Protection 44 (4) 313-319 (1981) [5 ref. En] [Technology Incorporated, 16821 Buccaneer, Suite 206, Houston, Texas 77058, USA]

A new space food system will be introduced on the fifth Shuttle mission. The change includes redesign of the package for rehydratable foods and a new galley. The package will be an injection moulded base with a thermoformed flexible lid and a needle-septum concept for rehydration. One package will be used for both rehydratable foods and beverages. Automated production and more readily available materials reduce the cost of space food packaging. The galley system has a food preparation area, a semi-automatic rehydration unit and a convection oven. Time required to add water to the packages has been reduced to 3-5 min. Foods for space flight are purchased in lots and held at 40°F until 1-2 months before a scheduled flight. Most of the safety and quality tests are done while the foods are in storage. Foods which pass the tests, i.e. microbiological, sensory, rehydration, storage, and O_2 headspace, are transferred to flight packages in a Class 10 000 clean booth, using clean room techniques. The menu for the Shuttle food system is derived from a variety of foods that are preserved by dehydration, thermostabilization, irradiation and moisture control. AS

96

Soya protein products for institutional feeding systems. [Lecture]
Pereira, L.; Campos, S. D. S. de
Journal of the American Oil Chemists' Society 58 (3) 355-362 (1981) [20 ref. En] [Inst. de Tecnologia de Alimentos, Caixa Postal 139, 13.100, Campinas, SP, Brazil]

Aspects of production and use of soybeans in Brazil are discussed under headings of: soybean products developed by ITAL (Instituto de Tecnologia de Alimentos), i.e. Vital: soybean protein extract, powdered soybean protein extract, cassava flour enriched with soybean, corn flour enriched with soybean, infant food formula based on soybean and cows milk, Gestal (sweet, dehydrated mixture of corn flour, skimmed milk, soybean protein concentrate, sugar and maltodextrin), bread, biscuits, macaroni, fried soybeans, micropowdered whole soybean flour, soybean flakes, banana flakes with soybean; industrialized soybean products available on the institutional market (Brazil, 1980), a large table is given; and institutional programmes in Brazil. [See FSTA (1981) 13 12J1852.] LH

97

[Equipment for communal feeding establishments. Functional containers. Specifications.]
Poland, Polski Komitet Normalizacji i Miar
Polish Standard PN-79/A-55530, 3pp. (1979) [Pl]

This standard, which supersedes BN-76/2560-03, applies to containers for the general preparation, handling and movement of foods and food constituents. The containers shall be of material permitted for contact with food and capable of withstanding temp. in the range −50° to +300°C. The standard also covers dimensions and styles. HBr

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FAB 24

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Coverage of the subject has been restricted to that of Food Science and Technology Abstracts, which covers over 1200 of the important food journals, patents from 20 countries and books published world-wide. Every effort is made to include all significant references, but editorial discretion is used on the many articles of borderline interest. If the reader particularl needs an exhaustive search of the subject, we will be pleased to provide any other references that we have available. We would, in any case, encourage readers to write or telephone us with any comments or queries that they may have.

H. BROOKES

EDITOR

1

[Social and economic problems of communal feeding.] Sotsial'no-ekonomicheskie problemy obshchestvennogo pitaniya. [Book]
Feizullaev, I. A.
133pp. (1980) [Ru] Moscow, USSR; Ekonomika. Price 0.55r

The role of communal feeding in the Soviet economy is discussed, as well as the basic trends in communal feeding organization. Chapters are: Communal feeding – modern methods of organization (pp. 5–31); Developments in production (pp. 32–79); Industrialization of communal feeding and its role (pp. 80–111); and Basic development trends in communal feeding (pp. 112–133). STI

2

[Basic data for determination of age-related portion sizes for school meals.] Grundlagen zur Bestimmung altersgemässer Portionsgrössen für die Schulmahlzeit.
Werner, R.; Piekarski, J.; Opletal, L.
Berichte der Bundesforschungsanstalt für Ernährung No. 1, 43pp. (1981) [3 ref. De, en]
[Bundesforschungsanstalt für Ernährung, Karlsruhe, Federal Republic of Germany]

3

[Hygiene and technology in the kitchens of catering establishments.] Betriebshygiene und Technologie in Grossküchen.
Thiel, W.
Fleischwirtschaft 60 (10) 1871–1875; 1887 (1980) [many ref. De, en] [Staatliches Veterinäruntersuchungsamt, Deutscher Ring 100, D-4150 Krefeld, Federal Republic of Germany]

This lecture discusses the bacteriological safety of foods and the many precautions needed to ensure perfect hygiene in large-scale catering (i.e. low initial contamination of raw material, perfectly clean food preparation rooms and utensils, cleaning and disinfection methods). RM

4

Hazard analysis of food service operations.
Bryan, F. L.
Food Technology 35 (2) 78–87 (1981) [23 ref. En] [Public Health Service, Centers for Disease Control, Atlanta, Georgia 30333, USA]

Hazard analysis involves investigations intended to disclose (through examination of raw materials, processes, practices, personnel, products, equipment and premises) either the actual presence or the possibility of occurrence of: (i) potentially hazardous foods (e.g. foods likely to contain dangerously large quantities of pathogenic microorganisms); (ii) pathogenic microorganisms or poisonous substances in foods; (iii) employee practices that could lead to, or fail to preclude transfer of pathogenic microorganisms or poisonous substances to foods; (iv) inadequate time-temp. combinations (e.g. which might permit survival of pathogenic microorganisms); (v) procedures which might contaminate potentially hazardous foods after heat processing; and (vi) environmental conditions which might permit maintenance and transfer of pathogenic microorganisms or poisonous substances. Hazard analysis therefore, estimates risks of producing, processing or preparing foods by assessing all possible hazards and the likelihood of their occurrence. This review-type paper discusses the procedures involved in hazard analysis of the operations in a food service establishment and then presents data to exemplify hazardous food service operations related to contamination of foods with pathogens, processes that permit pathogens to survive, and storage practices that promote microbial multiplication. These data are discussed in a sequence which follows typical food flow in food service operations, i.e. procuring and receiving, storage of packaged and raw foods, reconstitution of dry foods, thawing of frozen foods, handling and preparation of raw foods, cooking, handling after cooking, hot-holding, cooking, reheating, serving or packaging, and cleaning. Relevant data are presented in graphs. The paper concludes by briefly outlining the role of managers in hazard analysis. JA

5

A model food service quality assurance system.
Snyder, O. P.
Food Technology 35 (2) 70–76 (1981) [13 ref. En] [Dep of Food Sci. & Nutr., Univ. of Minnesota, St. Paul, Minnesota 55108, USA]

In 1978, the FDA recommended that states in the USA establish food safety education programmes for the food service industry. The University of Minnesota established such a programme, its purpose being to educate personnel in the prevention of food-borne illness. The programme was introduced in 1975 and has since been updated and improved; one principle established is that, for quality assurance purposes, the food service system must be dealt with in total. This paper uses as a food service quality assurance system a model which treats food-borne illness prevention as a total systems problem. Consideration is first given to what consumers consider to be indicators of sanitation quality in food service establishments, e.g. cleanliness of dishes and cutlery. Procedures involved in assessing food service operations and hence in establishing a quality assurance system are then discussed. Following a brief review of the stages involved in the organizational structuring of quality assurance, a model food service quality assurance system is described with the aid of a flow diagram. The paper concludes by discussing the effectiveness of the programme and considering future trends in quality assurance. JA

6

[Microbiology of institutional foods.]
Delazari, I.; Leitao, M. F. de F.; Pereira, L.; Uboldi Eiroa, M. N.; Santos, C. A. de M.
Boletim do Instituto de Tecnologia de Alimentos, Brazil 17 (3) 315–325 (1980) [6 ref. Pt, en] [Inst. de Tecnologia de Alimentos, Campinas, Sao Paulo, Brazil]

Studies were conducted on microbiological quality of 440 samples of the instant high-protein beverage Gestal; tables of data are given for counts of total mesophiles, total coliforms, yeasts + moulds and *Bacillus cereus*, and presence/absence of

Staphylococcus aureus, Escherichia coli, Salmonella spp. and *Shigella* spp. The results are discussed in relation to microbiological standards. Most samples complied with the microbiological standards: 2 samples contained *Staph. aureus* at 10/g, and 19 contained *B. cereus* at 10^2–10^3/g. *E. coli, Salmonella* and *Shigella* were absent in 1 g, 300 g and 75 g resp., for all samples. Studies were also conducted on the microbiological quality of products used for school lunches, etc. 35 required heating before use, 26 were instant-type products. Tables of results are given, and discussed in relation to appropriate standards. Most of these products complied with the microbiological standards, except for 2 samples of products requiring cooking before use, which contained *Salmonella* and had relatively high counts of total coliforms and faecal coliforms. AJDW

7

Effect of microwave heating in cook/chill foodservice systems.

Dahl, C. A.; Matthews, M. E.
Journal of the American Dietetic Association **77 (3)** 289–295 (1980) [13 ref. En] [Dep. of Food Sci., Coll. of Agric. & Life Sci., Univ. of Wisconsin, Madison, Wisconsin 53706, USA]

Investigations were carried out to determine the end temp., yield, drip loss, evaporative loss, moisture and fat content of precooked, portioned foods ((i) beef loaf, (ii) mashed potatoes, (iii) frozen beans and (iv) canned green beans) after microwave heating, using a laboratory simulation of a hospital cook/chill food service system with a microwave oven. Beef loaf was initially cooked to a mean internal end temp. of 65°C, dehydrated potatoes were reconstituted and heated to an end temp. of 79°C. Beans were not initially cooked. Products were stored in bulk for 24 h at 6 ± 1°C portioned into 100 g portions, stored for 2 h at 6 ± 1°C and microwave heated: (i) and (iii) for 20, 50, 80 or 100 s; (ii) for 25, 45, 65 and 85 s; and (iv) for 20, 40, 60 or 80 s. Results are tabulated. A wide range (up to 46°C) in mean internal end temp. portioned food after microwave heating was observed after each treatment. This raises questions about the constancy of the microbiological quality of food served to patients in hospitals using microwave ovens. Differences in the rate of microwave heating among the foods in the study raise questions about current practices of heating multiple menu items on a single plate. VJG

8

Fast foods raise new problems for the food service industry.

McLaughlin, B.
Farm and Food Research **10** (6) 177–178 (1979) [En] [Kinsealy Res. Cent., Agric. Inst., Dublin 5, Irish Republic]

Some of the implications of the rapid growth in the fast food sector of the food service industry are discussed. Aspects of fast foods considered are: central production; microbiological quality; nutritional quality; preservation and processing; food packaging and labelling. VJG

9

[Ensuring food hygiene at large-scale public events.]
Ernährungshygienische Absicherung von Grossveranstaltungen.

Coduro, E. **(German Democratic Republic,** Minister für Gesundheitswesen)
Zeitschrift für Lebensmittel-Untersuchung und -Forschung **172** (6, Beilage) 59–64 (1981) [De]

This is a ministerial regulation made under the appropriate part of the Food Law, and was originally published in *Gesetzblatt der DDR* (1981) Teil I Nr. 4 p. 49. Scope of the law is defined as covering those events requiring organized special catering, and responsibilities of event organisers and public health officials are established. Detailed hygiene requirements for storage and sale of food from mobile stalls and catering units are given in annexes; this includes tabulation for 50 foods of max. permitted age of product, permitted storage conditions in mobile units, with max. length of such storage and any special retailing conditions. DIH

10

[Gas-heated catering equipment.]
Gasverbrauchseinrichtungen für Grossküchenanlagen.

Germany, Federal Republic of, Deutscher Normenausschuss
German Federal Republic Standard **DIN 3363,** 18pp. (1979) [De]

11

Institutional size retort pouches.

Badenhop, A. F.; Milleville, H. P.
Food Processing **41** (1) 82–86 (1980) [3 ref. En] [Oregon State Univ., Corvallis, Oregon 97331, USA]

The next development in commercial retortable pouches will be the replacement of institutional size No. 10 cans with pouches for thermostabilized acid foods, such as fruits. Known advantages of pouches are reduction in process time and severity which can be achieved, reduction in usage of brine or syrup for packing, and lower unit costs for the packs themselves. The research and development effort required to solve the problems that this change presents is discussed. JRR

12

Effect of preparation and service on the thiamin content of oven-baked chicken.

Lee, F. V.; Khan, M. A.; Klein, B. P.
Journal of Food Science **46** (4) 1560–1562 (1981) [En] [Dep. of Foods & Nutr., 274 Bevier Hall, Univ. of Illinois, Urbana, Illinois 61801, USA]

Chicken breast halves were oven-baked and evaluated for thiamin content when prepared and served under a cafeteria-style food service system. After preparation, they were held on a steam table for 90 min, frozen stored for 4 wk and finally reheated using conventional and microwave ovens. Thiamin detn. were conducted on raw, cooked, hot-held, frozen-cooked and reheated samples. The mean total % cooking losses for the freshly cooked chicken were 20.4 ± 10,9%. The steam table holding for 90 min resulted in 4.4 ± 0.7%

evaporation losses. The mean % evaporation losses for the microwave reheated chicken were not significantly different from those of the conventionally reheated samples. No significant differences were noted in the moisture and fat content among various treatments. The thiamin content of raw meat when calculated on a dry, fat-free basis was significantly higher than the thiamin content of the cooked meat. There were no significant differences in the thiamin content after various treatments. IFT

13

[Legal aspects of catering establishments.]
Lebensmittelrechtliche Aspekte bei der Herstellung von GV-Menüs.
Bertling, L.
Zeitschrift für Lebensmittel-Technologie und -Verfahrenstechnik 30 (3) 102–103 (1979) [De]

Legislation applicable to catering establishments in the Federal Republic of Germany is briefly discussed, with reference to: official inspection; hygiene; training of personnel; cleaning and disinfection; control of pests; vending machines; labelling; declaration of additives; prohibition of misleading claims or descriptions; and labelling of special and dietetic foods with data for nutrient contents. AJDW

14

[Mineral and trace element contents of meals.]
Mineralstoff- und Spurenelementgehalt von Speisen.
Bognar, A.; Schelenz, R.; Grünewald, T.; Frahm, H.; Heine, K.; Wiechen, A.
Berichte der Bundesforschungsanstalt für Ernährung No. 2, 62pp. (1981) [23 ref. De, en] [Inst. für Hauswirtschaft, Bundesforschungsinst. für Ernährung, Karlsruhe, Federal Republic of Germany]

Studies were conducted on the mineral and trace element contents of 68 items (including meat, fish and vegetable products) for use in school meal programmes. Concn. of Ca, Cl, Fe, K, Mg, Na, P, Sb, Ba, Br, Cs, Cr, Hf, Ir, Co, Cu, Mn, Hg, Rb, Sc, Se, Ag, Sr, Sn and Zn were determined by neutron activation analysis and X-ray fluorometry. Tables of results are given and discussed. Intakes of these elements from an average portion are considered. It is concluded that these school meal components supply an adequate level of P, K, Fe, Cu, Z and Mn, an inadequate level of Mg and Ca, and an excessive level of Na and Cl. Use of nutrient concn. tables in conjunction with recipe data did not permit accurate calculation of trace element and mineral concn. in the foods studied; calculated and experimental data did not agree closely. Levels of trace elements differed considerably between products from different suppliers. AJDW

15

[Energy conservation and heat-recovery in high-capacity catering facilities.] Energieeinsparung und Wärmerückgewinnung in Gross-Küchen.
Schwebel, W.
GV-Praxis mit Tiefkühlpraxis 20 (11) 97–98 (1980) [De]

Aspects considered include: heat sources and temp. ranges used in catering facilities; the relatively low temp. of recycled waste heat; insulation of processing equipment; and use of cooking equipment with relatively low energy consumption (with reference to potential energy savings with various types of processing equipment). AJDW

16

The sauces of versatility.
Anon.
Catering and Hotel Management 53 (9) 7 (1981) [En]

Use of readymade elaborate sauces (chasseur, mornay, diane, etc.) with long shelflife by small scale caterers avoids wastage, because sauces can be ready on order, instead of being prepared in advance to be used or lost. Such sauces are described and their uses considered. LH

17

Microwave heating of scrambled eggs in a hospital foodservice system.
Cremer, M. L.
Journal of Food Science 46 (5) 1573–1576, 1581 (1981) [En] [Ohio State Univ., School of Home Economics, 1787 Neil Avenue, Columbus, Ohio 43210, USA]

Temp. of scrambled eggs (117 portions) after heating in microwave ovens in a hospital foodservice system were examined to determine the extent to which temp. could be controlled in actual foodservice operation, and the relationship of voltage, portion wt., temp. before heating, and power (W) within ovens to temp. of food after heating in actual operation. Temp. variability was controlled to the extent of 5°C (average 2 scoops), as indicated by the s.d., with 96% of the temp. ≥ 74°C as indicated by standard score conversion. Significant ($P < 0.01$) negative correlation was found between temp. of eggs after heating and voltage; this occurred within a range of 3 V. Temp. after heating was significantly ($P < 0.01$) positively correlated with temp. before heating and negatively correlated with portion wt. ($P < 0.05$). No significant relationship was found between temp. and power (W) within ovens but voltage was significantly ($P < 0.01$) negatively correlated with power. Food may be heated in microwave ovens in foodservice systems if factors influencing heating are rigidly controlled, but complete safety cannot be assured. IFT

18

Practical maintenance and equipment for hoteliers, licensees and caterers. [Book]
Gladwell, D. C.
xii + 223pp. ISBN 0-09-145121-3 (1981) [17 ref. En]
London, UK; Hutchinson & Co. Ltd. Price £5.95 [Dep. of Hotel & Institutional Management, Sheffield Polytechnic, UK]

This publication has been written for all types of hotels, licensed houses and catering establishments, and includes chapters on: Buildings (pp. 1–44); Plumbing and sanitary systems (pp. 45–76); Electrical installations (pp. 77–97); Heating systems, appliances, and fuels (pp. 98–150); Ventilation and air-conditioning (pp. 151–169); and Refrigeration and food storage (pp. 170–188).
A 1-pp. bibliography and a 13-pp. subject index are also provided. LH

19

[Monitoring microbiological quality of catering establishments.]
Catsaras, M.
Bulletin de l'Academie Veterinaire de France 53 (3) 357-364 (1980) [1 ref. Fr, en] [CERBA, Inst. Pasteur de Lille, Lille, France]

Because isolated microbiological analyses do not permit proper evaluation of an individual establishment, a scheme is described for ordering data and classifying catering establishments. Representative meals are sampled once a month in each site. Similar establishments are grouped to facilitate assessment of overall means, trends, etc. Individual results are coded (e.g. onto a 6-point scale from 'bad' to 'very good') and 3-monthly means are calculated and used for assessments. DIH

20

[Possibilities for ventilation of large-scale kitchens. Suggestion for ventilation, hygiene, acoustics, lighting and protection of buildings.] Neue Möglichkeiten für die Lufttechnik in den Grossküchen.
Heydal-System GmbH
Kälte 34 (3) 86-90 (1981) [De] [Heydal-System GmbH, Postfach 63-22, 7800 Freiburg 26, Federal Republic of Germany]

21

[Ventilation problems and room hygiene in large-scale kitchens.] Lüftungsprobleme und Raumhygiene in Grossküchen.
Gerstung, W.
Kälte 34 (3) 92, 97 (1981) [De]

22

[Area ventilation in large-scale kitchens.]
Flächenentlüftung in Grossküchen.
Oetjen, H.
Kälte 34 (4) 146-149 (1981) [De]

23

Activities report of the R&D Associates. Proceedings of the Spring 1981 meeting. Theme: importance of effective military and federal government R&D, procurement, and quality control of current and new food products on combat readiness.
United States of America, Research & Development Association for Military Food & Packaging Systems Inc.
Activities Report 33 (2) vi + 130pp. (1981) [many ref. En] [Room 1315, 90 Church Street, New York, New York 10007, USA]

Proceedings of the Spring 1981 meeting, held on 24-25 March 1981 in Philadelphia, Pennsylvania, USA, contains papers under the following session headings: Procurement of food for the Department of Defense (pp. 5-31); New technologies for foods (pp. 35-81). The government-wide food quality assurance program (pp. 82-102); Meal-ready-to-eat (MRE) and flexible packaging (pp. 103-124); and the present and future role of the ½ steam tray (pp. 125-127). Individual papers include the following: Current programs and accomplishments of the U.S. Army Natick R&D Laboratories, by R. J. Cuthbertson (pp. 1-4). Introduction of new food products to the military food service program, by D. Rhoads (pp. 14-16). Potential uses for genetic engineering, by D. L. Brown (pp. 35-44). Designing new fermented foods [using brewing as a model], by T. J. Skatrud & M. R. Sfat (pp. 45-53, 10 ref.). A review of food irradiation and its future prospects, by N. Nielson (pp. 60-68). Update on hypobaric storage of perishables, by Y. S. L. Shum & W. Jamieson (pp. 69-76, 81, 8 ref.). Future of the institutional pouch and pouch performance, by F. E. Long (pp. 103-108). Biotesting of retort pouches, by J. Williams (pp. 109-111). Nutritional retention of retort pouched foods, by S. S. H. Rizvi (pp. 112-115, 4 ref.). Retort pouch - a material supplier's view, by Y. M. Brandt (pp. 116-120). The vital role of the half steam tray in military feeding, by G. Hertweck (pp. 125-128, 12 ref.). AL

24

Who benefits from school feeding? An analysis of participation in the National School Lunch Program.
Akin, J.; Guilkey, D.; Popkin, B.; Bass, J.; Haines, P.
Food Technology 35 (9) 70-72, 74-79 (1981) [25 ref. En] [School of Public Health, Univ. of N. Carolina, Chapel Hill, N. Carolina 27514, USA]

The National School Lunch Program is examined statistically, with particular reference to participation by low income groups. Determinants of participation are meal cost and availability of alternatives, acceptability, knowledge in relation to personal health and particularly parental attitudes. Other possible factors are the degree of anonymity provided for children, residential patterns, provision of vending machines, socio-cultural characteristics of child, and nature and conditions of meal service. Other parental factors included income of the household (divided into 17 categories of earned and unearned income), time available to prepare lunches in lieu of school meals, size and composition of the household, education level of household adults, age, sex and race of children and special diet requirements. The original figure of 11 255 child-days (children attending schools serving lunch) was reduced by various factors (given) to 1696. The major factor was meal price (as expected), although meals were subsidized. Overall figures were not statistically reliable, and better predictions were obtained by dividing the children into age groups of 6-11 and 12-18 ; in the lowest age group (all being relatively poor) the lowest in some third were most likely to participate in school meals. Non-whites were also much more likely than whites to take a free or low-priced lunch. Older children (aged 12-18) were less likely to participate. Children from Southern regions of the USA were much more likely to participate than Northern children (especially NW, a significant factor). Factors found to be statistically non-significant were sex, educational level of the mother, and residence in urban areas. ELC

25

Isolation of *Legionella pneumophila* from water systems: methods and preliminary results.
Tobin, J. O.; Swann, R. A.; Bartlett, C. L. R.
British Medical Journal 282 (6263) 515–517 (1981) [11 ref. En] [Public Health Lab., Radcliffe Infirmary, Oxford, UK]

A survey was begun in 1980 to determine how frequently *L. pneumophila* (the causative organism of legionnaires' disease) could be found in the water storage and distribution systems of hospitals and hotels; the recirculating water of air-conditioning systems was also examined in view of evidence from the USA of airborne spread of the bacteria from contaminated cooling towers and evaporative condensers. This paper reports methods of isolation and identification of the bacteria and presents early results of the survey. Water samples from 31 establishments (28 in England and Wales, 3 abroad) were examined; 6 of the establishments had previously been implicated epidemiologically as sources of legionnaires' disease, while the other 25 had no known association with the disease. The isolation procedure involved guinea-pig inoculation and subsequent culture of peritoneal fluid, liver and spleen; identification of isolates involved serogrouping by immunofluorescence and whole-cell fatty acid analysis by GLC. A total of 42 isolates of *L. pneumophila* was found in samples from the 31 establishments, including samples from establishments not associated with legionnaires' disease. These results suggest that *L. pneumophila* is ubiquitous. In view of this finding, the authors suggest that its occurrence in water systems in the absence of associated cases should not be an indication for active measures of eradication. JA

26

Semi-processed fruit and berries as raw materials in the food-processing and catering industries. [Book]
International Trade Centre UNCTAD/GATT
xi + 144pp. (1978) [En] Geneva, Switzerland

This book is designed to promote an increase in exports of semi-processed fruit and berries from developing countries and generally to further the diversification of exports from these countries by supplying information to enable them to adapt their production and marketing activities to world markets. The book comprises a market study on frozen, canned and temporarily preserved fruit and berries for industrial or catering use in France, Federal Republic of Germany, Netherlands, UK, Canada and Japan. It gives data and comments on supply and demand patterns and trends, market characteristics and marketing recommendations; for each country surveyed it covers production, foreign trade, end-user sectors (the jam industry, dairy industry, bakery industry and the institutional sector, and other end-users), market requirements, competition, distribution, market access, and market prospects; it also gives useful addresses. Information on processing methods and equipment, EEC import regulations and customs duties, and a 2-pp. bibliography are also included. AL

27

[Dairy products and collective catering.]
Anon.
Technique Laitiere No. 955, 11–15, 17, 19–22 (1981) [Fr]

This is a verbatim report of a round-table discussion among marketing personnel of French dairy enterprises, wholesalers, and managers of collective catering facilities in firms, hospitals, schools, military establishments, etc. The discussion touched on various problems concerning commercial relations, the nature and quality of products, etc., and revealed the current lack of communication and the need for better understanding between dairies and collective catering organizations. ADL

28

[The importance of hygiene and its problems in large scale catering facilities.] Die Bedeutung von Hygiene und deren Problematik in der Grossküche.
Kolb, H.
Verbraucherdienst 25 (3) 51–58 (1980) [De] [Bundesgesundheitsamt, Berlin]

Aspects considered in this discussion of food hygiene and preservation methods include: general microbiological principles; multiplication rate of microorganisms; microbial growth in relation to temp.; thermal sterilization; pasteurization; cold storage; freezing; sterile-filtration; irradiation; concentration; drying; chemical preservatives; protective gas atm; natural souring fermentations; alcoholic fermentation; and combined methods. The relative microbiological safety and effects on product quality are considered for some of these methods. AJDW

29

[Prevention of bacterial contamination. Cleaning and disinfection in catering kitchens and canteens.] Keimbefall verhindern. Reinigung und Desinfektion in Grossküchen und Kantinen.
Günther, M.
GV-Praxis mit Tiefkühlpraxis 21 (5) 104–106; (6) 63–68 (1981) [De] [Firma Schülke & Mayr, Norderstedt, Federal Republic of Germany]

Hygiene measures in large-scale food preparation facilities are disussed, with reference to: the importance of raw material quality, and correct storage; identification of sources and routes of contamination; efficient cooling of cooked foods; avoidance of cross-contamination; cleaning; chemical cleaning agents; rinsing; selection of disinfectants; personal hygiene; and practical hygiene recommendations. AJDW

30

[Hygiene – a major problem in catering.] Hygiene – ein grosses GV-Problem.
Mewes, H.
GV-Praxis mit Tiefkühlpraxis 21 (4) 117–126 (1981) [De]

Hygiene in food preparation facilities in catering establishments is discussed, with reference to: raw materials and their preparation; avoidance of over-use of frying fats; preparation and cooking of fresh and frozen vegetables; salads and salad dressings; desserts; comminuted meat products; dietetic foods; general aspects of handling of foods; testing on delivery; storage; refrigerated and frozen storage; precautions in preparation, cooking, etc.; holding of prepared products; personnel hygiene; and cleaning and disinfection of equipment and facilities. AJDW

31

[Outbreaks of food-borne infections and intoxications in international air traffic.]
Bouwer-Hertzberger, S. A.
Voeding 43 (1) 29–31 (1982) [1 ref. Nl]

Outbreaks of food poisoning attributable to food supplied aboard airliners are briefly discussed, with reference to: problems with identifying the source of outbreaks (passengers may be widely dispersed before symptoms appear); proportion of passengers affected; symptoms; causative organisms; foods implicated; sources of contamination; establishment of 'safe catering practices'; and suggestions for minimization of the problem. AJDW

32

[Air-borne bacteria in a kitchen.]
Ueda, S.; Kuwabara, Y.
Journal of Japanese Society of Food Science and Technology [Nippon Shokuhin Kogyo Gakkaishi] **27** (4) 161–165 (1980) [17 ref. Ja, en] [Lab. of Hygiene, Kagawa Nutr. Coll., 3-24-3, Komagome, Toshima-ku, Tokyo 170, Japan]

Using the pin-hole sampler method, counts were made of air-borne bacteria in a school kitchen during the period April–Dec. 1978. The plate counts of air-borne bacteria ranged from 0.1–0.2/l air in April–June to 0.4–0.5/l air in Sept.–Nov. The predominant bacteria were Gram-positive cocci (especially in May and June) and Gram-positive spore-forming rods (especially in Oct. and Nov.). *Bacillus subtilis, B. licheniformis, B. megaterium* and *B. cereus* constituted 37.9, 12.2, 11.6 and 8.3%, resp., of the bacilli isolated. [From En summ.] JA

33

[Temperature distribution of conventional griddles. A catering study.]
Rask, Ö.; Gustafsson, U.; Andersson, C.-G.
SIK Rapport No. 488, 22pp. (1980) [Sv, en] [SIK – Svenska Livsmedelsinst., Box 270 22,
S-400 23 Göteborg, Sweden]

Studies were conducted on temp. and uniformity of temp. of 19 commercially-available electric griddles suitable for use in catering facilities. Cooking time and the appearance of the cooked product were also determined for various food products. Tables and graphs of results are given. Temp. differed considerably between griddles and between locations within griddles. With empty griddles, the temp. control mechanisms commonly allowed temp. to reach levels well above normal cooking temp.; when loaded with frozen food, the surface temp. often decreased unacceptably, with little or no subsequent temp. increase. AJDW

34

[Cooling of food in catering.]
Andersson, Y.; Hakansson, C.; Jakobsson, B.; Lind, I.; Lind, L.; Skjoldebrand, C.; Thorsell, U.
SIK Rapport No. 493, 33pp. (1980) [Sv, en] [SIK – Svenska Livsmedelsinst., Box 27022, 400 23 Göteborg, Sweden]

This report (which is also Styrelsen för Teknisk Utveckling Information No. 233 - 1981) covers a study on cooling of foods in catering facilities; interviews on cooling procedures and equipment were conducted in 40 catering establishments. Data are presented for cooling rates used for meat, fish, soup, and sauces; the equipment used, and its suitability; and procedures employed. Products were rarely cooled to 8°C within the 4 h recommended by the National Food Administration. Equipment was often of too low a capacity for the product load, and handling procedures etc. were capable of considerable improvement. Use of temp. measurement systems for checking of cooling is recommended. Commercially available cooling equipment is also surveyed. AJDW

35

[Use of microwave ovens in catering.]
Filliettaz Goethart R. L. de; Lassche, J. B.
Voeding 42 (12) 407–410 (1981) [Nl]

Aspects considered include: extent of use of microwave ovens in catering; applications for which they are used; disadvantages of microwave heating; efficiency of energy utilization; construction and operation; relation to food quality; cooking losses; elimination of bacteria; effects on nutritional value; and effects on organoleptic quality. AJDW

36

Quality of milk and patterns of consumption by children in Connecticut schools and camps.
Hankin, L.; Stephens, G.; Shields, D.; Cushman, K.
Bulletin, Connecticut Agricultural Experiment Station No. 782, 8pp. (1980) [8 ref. En] [Connecticut Agric. Exp. Sta., PO Box 1106, New Haven, Connecticut 06504, USA]

37

A few minor refinements and Voila! Fast, flavorful microwave food service.
Anon.
Food Product Development 15 (2) 54–55 (1981) [En]

2 Denver restaurants, Zach's and Rick's Cafe, each utilize 6 microwave ovens to prepare all their hot entrees. Both restaurants prepare a few dishes such as soups, but most of their entrees are precooked by their suppliers from recipes developed by the owners. Consideration is given to the way the food supplier worked with the restaurant owner to develop pasta, quiche, club sandwiches, pizza, and chicken dishes suitable for the microwave. It is concluded that increasing microwave use in the food service industry should not require food suppliers to drastically change their products. VJG

38

Heating well.
International Foodservice Equipment Systems Inc.
United States Patent 4 284 880 (1981) [En]

A heating well for a hot food serving appliance used to store bulk quantities of heated food has a heat dispersing plate supported on ledges adjacent to the lower end of a well housing. An open-top stainless steel well pan fits within the housing, the bottom wall of the pan being positioned against the heat dispersing plate. The latter is fabricated from cold rolled steel, or any other suitable material having moderate thermal conductivity, to retard spot heating of the well pan and eliminate, or substantially reduce, thermal cracking of the well pan. AS

39

['Convection steamer' – a new heat treatment method for use in catering establishments and the food industry. Applications and limitations.]
Österström, L.
SIK Rapport No. 467, 43pp. (1980) [11 ref. Sv, en] [SIK – Svenska Livsmedelsinst., Fack, S-400 23 Göteborg, Sweden]

Cooking trials were conducted to compare 4 cooking methods; (i) a water-cooker, (ii) a pressure cooker, (iii) a Cleveland X1DE-24 convection steamer and (iv) a commercial prototype convection steamer; cooking of potatoes, peas and fish was evaluated. Aspects considered include cooking time, temp. changes in the product, energy consumption, vitamin C retention and sensory quality of peas, and wt. losses of fish. Tables and graphs of results are given. (iv) gave the most variable temp. and slowest heating; (ii) gave the most uniform temp. and rapid heating. Cooking times were least for (ii), and were shorter for (iii) than for (iv). Specific energy consumption was much higher for (iii) than for (iv); average energy efficiencies were 33% for (ii), 12% for (iii) and 58% for (iv). Wt. loss of fish did not differ between cooking treatments, provided equal final centre temp. were achieved. Vitamin C retentions in peas were (%) (i) 53, (ii) 75, (iii) 71 and (iv) 57. (ii) gave the best organoleptic properties of peas; little difference was observed between organoleptic properties of peas cooked by the other 3 methods. Computer simulation showed that product thickness and cooking temp. were the main factors influencing cooking time; effects of heat transfer coeff. were negligible. AJDW

40

Serving tray.
Conti, R. (Dart Industries Inc.)
United States Patent 4 279 354 (1981) [En]

A tray for serving and storing foods comprises a tray divided by a bifurcated wall and an angled side wall. The tray supports a number of containers of different sizes in various positions, to further compartmentalize the tray for food service. [From En abstr.] RAW

41

You see just what we sell.
Anon.
Fast Food Feb., 39–40, 42 (1980) [En]

Different types of menu displays are discussed and illustrated, including those of Bakentake, Tesco, Take or Stay, Burger King, BJ's, and Hardee. These illustrated displays play an essential role both in selling meals and keeping queues moving. VJG

42

The school meal service – a new responsibility for the food manufacturer.
Roberton, D. J.
Food Trade Review **51** (7) 351–352 (1981) [4 ref. En]

Consideration is given to the effect of the implementation of the 1980 Education Act on the school meal service. Tabulated data show the cost of school meals in the counties of England in July 1980 and March 1981. The contribution which the food industry could make to ensure that children receive meals which are both nutritious and attractive, but which are convenient and relatively inexpensive is considered. Food products which might usefully have added nutrients are listed. VJG

43

[School meal service with refrigerated prepared meals.] Schulverpflegung mit gekühlten Speisen.
Anon.
Verbraucherdienst 25 (1) 13–18 (1980) [De]

Aspects considered include: distribution of refrigerated or pasteurized/refrigerated prepared foods; microbiological quality, and measures for its optimization; organoleptic quality; nutritional value; process technology; labour requirements and productivity; and costs. AJDW

44

[Handbook for catering.]
Thorsell, U.
SIK Rapport No. 504, 46pp. (1980) [Sv] [SIK – Svenska Livsmedelsinst., Box 5401, S-402 29 Göteborg, Sweden]

This publication (which is also Styrelsen för Teknisk Utveckling Information No. 242) covers: convenience foods, and prepared and semi-prepared foods; product groups (dried or frozen soups, sauces, desserts, potato products, meat products, fish products, pancakes, vegetables) and their characteristics and use; types of cooking equipment (with reference to characteristics and applications); and a glossary of terms of use in large-scale food preparation. AJDW

45

The food service industry in the 1980's – a more complex environment. Proceedings of the 36th Conference, Hilton Palacio del rio San Antonio, Texas, November 6, 7, 8, 1980. [Conference proceedings]
United States of America, Society for the Advancement of Food Service Research
109pp. (1981) [En] 628 Anderson Avenue, Fort Wayne, Indiana, USA

This symposium contains papers discussing how advances in technology, progress in electronic, and the realization of the significance of human resources may be effectively applied to food service operations and firms. Papers included are: An econometric model of the food service industry, by B. B. Hoyt (pp. 1–10). Food marketing in the first and third worlds, by H. Lyons (pp. 11–21). Aging and the food service industry, by D. M. Watkin (pp. 31–40), [i.e. nutritional and related aspects involved in an older population]. Improvement in gas-fired commercial cooking equipment, by R. L. Himmel (pp. 41–47). Material requirements planning as a decision tool to generate production data, by C. U. Lambert (pp. 48–57). Use of the branch and bound algorithm to schedule food production in a conventional food service system, by H. M. Guley & J. P. Stinson (pp. 58–68). Comparison of low temperature and conventional dishwasher systems, by R. D. Doering (pp. 69–74). State of the art of research in marketing, by L. M. Renaghan (pp. 85–90). State of the art of research in engineering, by R. E. Brattan (pp. 91–93). State of the art of research in human resource development, by J. P. Casbergue (pp. 94–99). State of the art of research in finance, by J. D. Lesure (pp. 100–106). LH

46

The Australian defence force food specifications.
Board, P. W.
CSIRO Food Research Quarterly 41 (1) 19–24 (1981) [En] [CSIRO Div. of Food Res., North Ryde, NSW, 2113, Australia]

The activities of the Australian Defence Force Food Specifications Committee are discussed. Their terms of reference are to prepare and continually revise specifications for foods for the Defence Forces. Consideration is also given to the format of the specifications and to the sampling plan to be used by the inspecting authority. VJG

47

[Planning the systematic monitoring of the handling of foods and essential commodities.] Planung der systematischen Überwachung des Verkehrs mit Lebensmitteln und Bedarfsgegenständen.
Arfert, H.; Fiks, H.; Mattheis, I.
Zeitschrift für die Gesamte Hygiene und ihre Grenzgebiete 26 (11) 804–806 (1980) [8 ref. De, en, ru] [Bezirks-Hygieneinspektion, Neubrandenburg, German Democratic Republic]

Data are given for the number of checks to be carried out in various branches of the food industry, according to the health risks involved. They range from 1.5 to 2.2 checks/plant. On average, 4.3 checks/plant yearly are required in the milk, meat, fish, ice cream and baby food industries. Monitoring of hygiene in catering establishments is particularly stressed. Total number of food samples to be taken annually is 6 samples/1000 inhabitants. Process monitoring in the food industry and hygiene monitoring in catering facilities are also required (25–60 checks/yr). IN

48

[Model experiments on the behaviour of bacteria in large kitchen technology particularly in the production of chilled meals.] Modelluntersuchungen über das Verhalten von Bakterien in der Grossküchentechnologie, besonders bei Kühlkost.
Bomar, M. T.
Alimenta 20 (3) 59–65 (1981) [8 ref. De, en] [Bundesforschungsamt für Ernährung, Engesserstrasse 20, D-7500 Karlsruhe, Federal Republic of Germany]

Effects of processing conditions (heat and cold treatment) on nonpathogenic psychrotolerant, mesophilic and thermophilic bacteria during large-scale preparation of chilled meals were investigated. Tabulated results showed that psychrotrophic and psychrophilic bacteria are eliminated by cooking, but may be important contaminants after cooking. The heat resistance of mesophilic and thermophilic bacteria requires strict hygiene control of raw materials (low contamination levels) and during cooking (observation of cooking times and temp.). The cold stress sensitizes the surviving spores, so that they are not activated after reheating. A max. of 3 days is suggested for chilled storage. It was concluded that, provided the temp. limits are observed, the nonpathogenic thermophilic, mesophilic and psychrotolerant bacteria do not constitute a microbiological hazard. RM

49

Bacterial growth at foodservice operating temperatures.
Rivituso, C. P.; Snyder, O. P.
Journal of Food Protection 44 (10) 770–775 (1981) [47 ref. En] [Dep. of Food Sci. & Nutr., Univ. of Minnesota, 1334 Eckles Avenue, St. Paul, Minnesota 55108, USA]

A search of current literature was conducted to determine the mean generation times (MGT) at various temp. for growth of *Staphylococcus aureus, Clostridium perfringens, Salmonella* and total aerobes in various foods. The data were graphed and a regression line was plotted to begin to form a more definitive time-temp. basis for specification of safe food service recipe procedures and to increase sensory quality through control of spoilage organisms. The results show that generation times vary significantly over the range of temp. normally found in food service, and pathogenic bacterial growth slows rapidly below 15–20°C. The results also show that data are quite limited and that there is need for additional studies. AS

50

U.S. Army Natick research and development command DOD food RDT & Eng program.
Salant, A. S.
Association of Food and Drug Officials, Quarterly Bulletin 45 (1) 30–34 (1981) [En] [US Army Res. Lab., Natick, Massachusetts, USA]

The activities of the Research and Development Command of the U.S. Army are briefly described, with mention of the food and food service support systems either in service or under development, and some spin-offs into the civilian sector, e.g. the retort pouch and the tray pack. JRR

51

Time and temperature standards and their relationship to food consumption.
Garey, J. G.
Dissertation Abstracts International, B 42 (2) 572: Order no. 8115490, 166pp. (1981) [En] [New York Univ., New York, USA]

This investigation examined whether deviations from standards from time and temp. in foodservice processes were related to the amount of food consumed in a Head Start setting. Data were collected for 15 days concurrently in three Head Start centres, which met site selection criteria and served the same menu. The data recorded included the times and accompanying temp. for each menu item as it was processed from procurement to preparation and, if applicable, heating through distribution and service (foodservice processes). Statistically significant negative correlations were found between each of time, temp. and safety and the average meal consumed by weight per person. AS

52

[Textbook for cooks. IV. Preparation of foods and presentation.] Lehrbuch für Köche. IV. Speisenlehre und Angebotslehre. [Book]
Freudenberg, G.; Herrmann, J.; Patzig, B.
Ed. 3, 404pp. (1981) [11 ref. De] Leipzig, German Democratic Republic; VEB Fachbuchverlag. Price M40.00

This book gives detailed descriptions of recipes for and methods of preparation of a very wide range of foods, cold and hot dishes (including sauces) together with desserts, beverages (e.g. various types of coffee, chocolate) and special diets. Aspects of presentation covered include drafting a menu (in De, Fr, En and Ru), and service in restaurants and other communal feeding establishments. A 9-pp. combined subject/recipe index is included. HBr

53

Is this the Chinese takeaway of the 80's.
Anon.
Fast Food Feb., 27, 29, 31 (1980) [En]

In the USA many Chinese restaurants have developed fast food operations based on Oriental food. New look packaging, menu presentation and service counter design have accompanied this change. Descriptions are given of the following 3 US oriental chains and the menus; Beef Bowl; Dosanka; and the Rickshaw Express Chain. Oriental dishes are being retailed McDonald's style. The possibility of Chinese caterers in Britain following suit is discussed. VJG

54

How multi-units pay off.
Anon.
Fast Food Feb., 55–57, 59–61 (1980) [En]

In Britain it is unusual to find fast food units sharing seating areas in shopping centres, usually multi-unit shopping complexes have a scattering of traditional restaurants and snack bars. In the USA the concept of fast food 'clusters' around a central seating area has been in use for a number of years. Examples of such operations considered are: Paramus Park, New Jersey (19 takeaway units plus 2 restaurants surround the 800 seats of the Pic Nic area on the 1st floor of the complex); Pier 39 (12 separate operations ranged around a central seating area holding 550 people); World Trade Centre (Big Kitchen on the ground floor with a variety of different units surrounding a central seating area); and the Pentagons fast food centre (handles a wide range of quick meals, both sit down and takeaway). VJG

55

A study of selected aspects of the University Food Service (UFS).
Disini, I. A.; Florencio, C. A.
UP Home Economics Journal 7 (1/2) 33–46 (1979) [2 ref. En] [Dep. of Food Sci. & Nutr., UP Coll. of Home Economics, Diliman, Quezon City, Philippines]

The following aspects are discussed: acceptability of foods served; nutritional quality of foods served; the sanitation of the UFS; cost; equipment and facilities. The study as a whole showed that the UFS failed in achieving its primary goal of serving acceptable, nutritious, safe, wholesome and reasonably priced goods. The facilities and equipment were also inadequate. UPLB

56

A comparison of formulated liquid diets.
Barber, C.; Peace, D.
Journal of the Canadian Dietetic Association 41 (1) 34–38 (1980) [10 ref. En, fr] [Peace & Musten Ltd., Suite 901, 8 King Street East, Toronto, Ontario M5C 1B5, Canada]

A wide variety of formulated liquid diets are currently available in Canada. Use for oral and tube feedings they are nutritionally complete when offered as the sole source of nourishment to patients unable or unwilling to take solid food. To assist Canadian dietitians in choosing the formulas most suited to patients' requirements the nutrient composition and properties (form, caloric density, osmolarity and packaging) are given for 18 named commercial products. The products are grouped according to their protein source and lactose content. The data, collected during summer 1979, were supplied and verified in writing by each manufacturer. AL

57

Hazard analyses, in reference to *Bacillus cereus*, of boiled and fried rice in Cantonese-style restaurants.
Bryan, F. L.; Bartleson, C. A.; Christopherson, N.
Journal of Food Protection 44 (7) 500–512 (1981) [26 ref. En] [US Dep. of Health & Human Services, Centers for Disease Control, Atlanta, Georgia 30333, USA)

Hazard analyses were conducted in six Cantonese-style restaurants to evaluate the amount of *B. cereus* in rice and the water activity and temp. of rice at each stage of processing. Each of 16 samples of raw, polished rice contained *B. cereus*. The water activity of cooked rice ranged from 0.912 to 0.980, and was related to the stage of the processing and storage practice. Rice reached temp. >93°C (200°F) during cooking. Cooked rice held in steam tables was maintained at temp. that should preclude growth of *B. cereus*. Whenever cooked rice was kept at room temp. for a few hours, the temp. became such that considerable growth of *B. cereus* could have occurred. Rice in layers <9 cm thick cooled rather rapidly; layers thicker than 9 cm cooled more slowly. During frying and refrying, temp. exceeded 74°C (165°F) *B. cereus* was frequently isolated from rice at various stages of preparation and storage, but in numbers $<10^3$/g. This organism was also isolated from rice storage pans. Recommendations for preventing problems that could be caused by *B. cereus* as a result of preparation and storage practices are to cook only small batches of rice at intervals during the day; hold cooked rice at or above 55°C (131°F); cool cooked rice in shallow pans in layers <9-cm thick; and fry rice so that every grain is certain to reach a temp. of at least 74°C (165°F). AS

58

Foodborne disease risk assessment of foodservice establishments in a community.
Bryan, F. L.
Journal of Food Protection 45 (1) 93–100 (1982) [9 ref. En] [US Dep. of Health & Human Services, Cent. for Disease Control, Atlanta, Georgia 30333, USA]

An administrative procedure based upon epidemiologic data to estimate risk of foodborne disease from foods served in food service establishments is presented. The method utilizes food-property risk, food-operations risk, and average daily-patronage risk as coeff. to compute a composite risk index. The food-property risk is concerned with the characteristics of the foods prepared in an establishment in regard to the relative frequency that these foods have been, or because of their intrinsic qualities could become, vehicles of foodborne pathogens. The food-operations risk is concerned with the probability that foods are or will become contaminated, that contaminants survive or are likely to survive certain processes, and that if bacterial contaminants are present, they could multiply to sufficient quantities to cause disease. As the number of persons that eat an implicated or likely vehicle, the risk increases. AS

59

[Improvement of hygiene conditions in mass catering.]
Choisy, C.; Veisseyre, R.; Pouliquen, –.
Industries Alimentaires et Agricoles 97 (9) 903–915 (1980) [11 ref. Fr, de, en] [Inst. Nat. Agron., Paris-Grignon, France]

The aims, methods and results achieved by a staff instruction and technical control study in 142 mass catering establishments between 1976 and 1978 are presented. Changes achieved in general hygiene standards and in the nature and degree of contamination in various types of food (hors d'oeuvres, desserts, cooked meats, cooked vegetables) are presented graphically and in tables. Fluctuations during the period of the study, with the season, and with the size of the establishment are analysed and discussed. RM

60

Investigation of food poisoning outbreak in Bermuda.
Anon.
CAREC Surveillance Report 7 (4) 1–3 (1981) [En]

A food poisoning outbreak at a hotel in Bermuda was investigated. 41 persons were interviewed, of which 19 exhibited symptoms (diarrhoea and abdominal cramps) in an onset period of 10–15 h. 18 of these people had eaten Chicken a la King at a Sunday brunch 2 days previously; the other person had not, but gave symptoms in an onset time of 4 h. Stool samples were requested from all the food handlers in the hotel and from 6 affected people. All food handlers cooperated, and 3 of the victims, and all samples were negative for the suspect organism – *Clostridium perfringens*. The manner in which the Chicken a la King was prepared, i.e. separate cooking of meat and sauce, and cooling of both prior to refrigeration (sauce was left for approx. 4 h in a 5 gal container at ambient temp. before refrigeration), and subsequent reheating, being served and kept hot in a warming dish, and the fact that symptoms of the poisoning did not involve vomiting seemed to point to a *C. perfringens* outbreak, but no conclusive evidence of this was found. LH

61

***Campylobacter enteritis* associated with the consumption of free school milk.**
Jones, P. H.; Willis, A. T.; Robinson, D. A.; Skirrow, M. B.; Josephs, D. S.
Journal of Hygiene 87 (2) 155–162 (1981) [11 ref. En] [Public Health Lab., Luton & Dunstable Hospital, Luton, UK]

The epidemiology of an abrupt outbreak of enteritis is described. During the 3-wk outbreak, which involved >2500 schoolchildren mainly in the 2–4 and 5–7 yr age ranges, the number of symptomatic cases increased from a norm of 2/wk to 12/day at the height of the outbreak. The source of the epidemic was almost certainly contaminated milk, but no bacteriological proof could be obtained. Biotyping of 325 *Campylobacter jejuni* isolates revealed one main 'epidemic' strain (271 isolates), one 'sub-epidemic' strain (29 isolates) and a miscellaneous group of 25 isolates. Epidemiological evidence of intra-familial and non-familial transmission of the infection was obtained. CDP

62

Broiling apparatus.

Morcos, J. A.; Morcos, G. A.

United States Patent 4 300 443 (1981) [En]

A drum of meat, comprising an assembly of layers of meat chunks, is rotated on a vertical spit, cooked by radiant heat from a number of heating elements, and sliced by an automatic paring apparatus. Certain of the heating elements are moved automatically towards the spit axis, and certain groups of heating elements are automatically deenergized as the diam. of the meat drum decreases. The device efficiently broils meat at high speed and is of particular use in restaurants. [From En summ.] RAW

63

Sensory and microbiological qualities of beef loaf in four commissary food service treatments.

Rini, M. J.; Cremer, M. L.; Chipley, J. R.

Journal of the American Dietetic Association 78 (5) 483-489 (1981) [26 ref. En] [Ohio State Univ., Columbus, Ohio, USA]

The specific objectives of the investigation were to evaluate the sensory and microbiological qualities of beef loaves, at various phases of product flow, when they were produced according to procedures simulating commissary food service systems. The systems were: (i) prepared food was held in insulated plastics trays for 1 h during transportation for service; (ii) as (i) but held for 2 h; (iii) prepared food was chilled, held chilled for 24 h, then heated in convection ovens; and (iv) prepared food was chilled, held chilled for 24 h, heated in bulk in a gas deck oven, and held for 1 h in insulated plastics trays during transportation for service. General acceptability was scored significantly higher for (i) than for (ii) or (iii). No significant differences for any quality characteristic scored were found between (i) and (iv). Appearance of beef loaves held hot for 1 h was significantly better than that of loaves heated in the convection oven. Microbiological analyses revealed no significant differences among treatments. Lowest total plate count was found in (iv). Highest counts were for (i). Increases in total microbial counts and clostridial counts were observed as meat was held chilled for 24 h. No increases were observed for (ii). VJG

64

Effect of microwave heating in cook/chill food service system.

Dahl, C. A.; Matthews, M. E.; Lund, D. B.

Journal of the American Dietetic Association 79 (3) 296-301 (1981) [14 ref. En] [Dep. of Food Sci., Univ. of Wisconsin-Madison, Wisconsin, USA]

Investigations were carried out to determine the quantity and the utilization of energy required to microwave heat portions of beef loaf using mass and energy balances in an energy-accounting model. Beef loaves (1 kg size) prepared during 3 laboratory simulations of a cook/chill system, were: baked to mean internal end temp. of 69 ± 4°C in a convection oven operating at 156 ± 5°C; covered and stored chilled at 6 ± 1°C for 24 h; sliced into 100 g portions; and microwave heated for 80 s to an internal end temp. of 82 ± 9°C. Mean input power to the microwave oven was 240 kJ/80 s. 53% of this was used to operate the oven, 12% to heat the beef loaf; 17% was estimated to evaporate water from the beef loaf and 18% was

65

Custom formulations spur Case-Swayne's success.

Hollingsworth, P., Jr.

Processed Prepared Food 150 (3) 52-56, 58, 60-61 (1981) [En]

A description is given of production of proprietary and commodity packs at Case-Swaynes plant at Santa Ana, California. The company supplies proprietary products to Mexican fast-food chains, BBQ chains, hamburger chains, chicken take outs and sit down family restaurants. Products include portion packed condiments, dry blended seasonings, canned and bottled sauces and canned specialty bean products, like chili. The 'Copyright Pack', a duplication of proprietary customer formulations, has enabled Case-Swayne to carve a niche in the fast changing food service market, and is now the most important segment of the companies business, comprising 60% of the companies sales. VJG

66

[The wave that cooks.]

Bei, A. dei; Lovotti, -.

Ristorazione Collettiva 7 (1/2) 65-75 (1982) [7 ref. It]

Microwave cooking is discussed, with reference to: characteristics of microwaves; interaction of microwaves with various materials; basic principles of microwave ovens; control and safety measures; characteristics of microwave ovens for use in catering; application of microwave ovens in catering; potential energy savings; possible future developments; and safety. AJDW

67

Milk marketing north of the border.

Booth, G.

Food, Flavourings, Ingredients, Packaging and Processing 3 (5) 33 (1981) [En]

A description is given of packaging and distribution at the £2.5 million Scottish Farm Dairy Foods dairy, in Govan, Glasgow. 15 Tetra Brik packaging machines with a total of 17 filling heads are capable of supplying 50 000 gal of fresh milk, in non-returnable Tetra Brik cartons daily. 2 type B5 machines are used for the packaging of ⅓ pint packs. These packs are used for distributing milk to Strathclyde's schools. These cartons have a range of 18 animals printed on them. Another development discussed is the recent launch of Fresh 'n' Low, a fat reduced milk aimed at the milk drinking customer. 10% of the weekly throughput at the dairy is Fresh 'n' Low. The company is planning to extend the range into 2 pint cartons and to add flavours. VJG

68

Flanged tray with gusset corners.

Humphries, R. L. (Kliklok Corp.)

United States Patent 4 304 352 (1981) [En]

A tray for packaging foods has leakproof gusset corners including overlapping gusset panels connected by a centre fold line. The food package has applications in packaging convenience foods and in institutional catering, e.g. hospitals and airlines. [From En summ.] RAW

69

Institutional serving tray.
Donnelly, W. R.
United States Patent 4 304 106 (1981) [En]

A tray, particularly for patient meals in hospitals and for similar applications includes a body with a sealed chamber containing a chemical compound or mixture which is 1 of a group including: magnesium nitrate; acetamide; benzoic acid; strontium bromide and naphthalene. The compound or mixture sealed in the body repeatedly reverses from a solid to a liquid state and back to a solid state: this reaction provides a relatively slow and stable heat release for approx. 1 h, and ensures that hot food remains at the initial food temp. for an extended period of time. AS

70

Activities report of the R&D Associates. [Conference proceedings]
United States of America, Research & Development Associates for Military Food Packaging Systems Inc.
Activities Report 34 (1) v + 162pp. (1982) [En]

This report of the proceedings of the Fall 1981 meeting, held in 16–17 Sept. 1981 at Natick, Massachusetts, on the theme 'Strategic planning in food technology, food service and packaging – short and long term communication between the military and industry' contains papers under the following workshop session themes: Military food service of the future (pp. 8–20); New food products for military feeding in the 1980's and 1990's (pp. 21–45); Prospects and directions for the retort pouch (pp. 46–78); Foreign food technology of military significance (pp. 79–114); Trends in food packaging industry capabilities vs. military needs (pp. 115–132); and Foods of the future (pp. 133–162). The following individual papers are included. The vital need for better communication between the food industry and military services, by P. H. Mason (pp. 3–7). Future navy food service needs & objectives, by T. A. Bianco Jr. (pp. 8–12). Development and field testing the Arctic ration, by W. W. Kastner III (pp. 13–15). Air Force food service in the 1990's, by S. E. Berendt (pp. 16–20, 28). Current and projected food service requirements in future military feeding, by M. M. Davis & G. A. Darsch (pp. 21–28). Food service in an NBC environment, by P. Brandler, J. Benedrick, M. Herz, K.-L. Hibbard & J. Sundell (pp. 29–35, 45). Operational ration requirements to support Marine Corps amphibious operations, by P. M. Short & M. Klicka (pp. 36–45, 7 ref.). Current armed forces procurement operations of the meal-ready-to-eat (MRE), by M. J. Cunningham (pp. 46–49, 54). Development of the market in Canada of the retort pouch, by P. L. Lowes (pp. 50–54). 'Achilles and the Tortoise' and 'Multitherm' – 2 new food stabilization systems, by L. Stenström (pp. 55–67). [Continued in following abstr.] AL

71

Activities report of the R&D Associates. [Conference proceedings]
United States of America, Research & Development Associates for Military Food Packaging Systems Inc.
Activities Report 34 (1) v + 162 pp. (1982) [En]

[Continued from preceding abstr.] R&DA reports to the Assistant Secretary of Defense findings of the R&DA ad hoc MRE & Retort Pouch Committee, by C. B. Denny (pp. 68–73). The retort pouch: where do we go from here? by D. D. Duxbury, J. S. Prinkle, P. F. Sams & H. E. Strassheim III (pp. 74–76). R&DA sub-committee on the absorption of iron when soy protein is consumed, by H. E. Bauman (pp. 77–78). Catering considerations in European countries, by R. A. Lampi (pp. 79–90, 31 ref.). The retortable pouch and how it relates to the individual meal pack, by J. Comeau (pp. 91–92). Current state of research and development in British Forces operational packs, by C. D. O'Hare (pp. 93–102). Trends in Soviet and Eastern European food technology, by A. Krome (pp. 103–108, 118). Developments in military subsistence in the People's Republic of China, by V. Dibbern (pp. 109–114). Today's industry capabilities in fiber packaging, by T. J. Setty (pp. 115–118). Important trends in the flexible packaging industry in the 1980's, by D. E. Whitehead (pp. 119–123). Rigid packaging developments in the '80s, by D. D. Reed (pp. 124–127). Military needs in food packaging – forerunner of industry patterns, by G. L. Schulz (pp. 128–132, 146, 2 ref.). Fish utilization: new sources, techniques and formulations for future food supply, by H. O. Hultin (pp. 133–139, 4 ref.). Dairy products with improved quality, utilization features, and future developments for use in foods, by G. W. Schults (pp. 140–146). New protein sources [soy proteins]: update on their uses in meats and future food products, by K. E. Beery (pp. 147–154). Wheat utilization: current developments and nutritional evaluation, by C. C. Tsen (pp. 155–162, 24 ref.). AL

72

Gas heated catering equipment. X. Heated rinsing sinks.
United Kingdom, British Standards Institution
British Standard BS 5314:Part 10:1982, 12pp. (1982) [En] [2 Park Street, London W1A 2BS, UK]

Requirements and tests are specified for heated rinsing sinks, formerly known as sterilizing sinks, intended for high temp. rinsing. AL

73

[Use of microwave ovens in catering.]
Fielliettaz Goethart, R. L. de; Lassche, J. B.
Voedingsmiddelentechnologie 15 (5) 13–16 (1982) [Nl, en] [Inst. CIVO-TNO, Zeist, Netherlands]

Aspects considered include: applications of microwave ovens in catering; advantages of microwave ovens; efficiency and performance of commercial microwave ovens; and effects on food quality (covering cooking losses, destruction of bacteria, and effects on organoleptic properties and nutritional value). AJDW

74

Computerized handling system increases warehouse-productivity 40%.
Anon.
Food Engineering 53 (7) 64–66 (1981) [En]

The distribution centre of the Gordon Food Service Inc., one of the largest institutional food suppliers in the USA, has been improved by the introduction of a computerized handling system. The increased orders are now easily handled and utilization of forklift trucks is min., which reduces congestion in the centre. Cartons are now removed from selection racks by order-selectors and directed to their destination by a conveyor system; the cartons are then manually placed in a container for loading into trucks. The conveyor system is installed near to the centres' ceiling, which provides an additional 60 000–80 000 ft^2 storage space. Productivity is 40% higher as a result of computerization. RAW

75

[Production of frozen foods for use in catering systems.]
Vasilescu, S.; Niculescu, L.
Lucrari de Cercetare, Institutul de Cercetari pentru Industrie si Chimie Alimentara 13, 31–39 (1978) [Ro, en, fr, de, ru] [Inst. de Cercetari pentru Ind. si Chimie Alimentara, Bucharest, Romania]

Production and utilization of frozen foods in an industrial scale catering institution are discussed, with reference to production and distribution schemes, the product range, facilities required, and prospects for frozen prepared and semi-prepared meals. AJDW

76

Restaurant chain tests diet menu plan.
Anon.
Food Development 15 (10) 55 (1981) [En]

Elias Brothers, part of the Big Boy International chain, have since Jan. 1981 been offering a separate Weight Watchers menu, at their restaurants throughout Michigan. The menu features foods strictly prepared according to Weight Watchers specifications. Included are portion-controlled selections ranging from a la carte entrees, soups, chili, salads, sandwiches, desserts and side dishes to complete breakfast, mid-day and evening meals. The foods are comparable in cost to the regular menu, and customer response is very good. VJG

77

[Is water used in hospitals potentially hazardous to health?]
Leth Petersen, H.; Thisgard, M.; Hedegard Kristensen, J.
Dansk Veterinaertidsskrift 62 (10) 509–517 (1979) [Da] [Levnedsmiddelkontrolenheden, Standvejen 4, 7700 Thisted, Denmark]

Water samples from supplies to a hospital and from various locations within the hospital (including kitchens) were tested for coliforms, fluorescent bacteria, gelatin-degrading bacteria and total counts at 21°, 30° or 37°C; concn. of nitrate, nitrite, ammonium and phosphate ions were also determined. Tables of results are given. In general, water supplied to the hospital complied with the requirements of the Danish Engineers Association, except for an increase in total count at 21°C, coliform count and fluorescent bacterial count while the water mains were under repair. Water samples from within the hospital were generally of drinking-water quality; some samples of water from ion-exchange treatment units or tap-mounted filters failed to comply with drinking water standards; suggested improvements are briefly considered. AJDW

78

[Economics of school milk from the point of view of dairy enterprises.] Zur Wirtschaftlichkeit der Schulmilch aus der Sicht der Molkereiunternehmen.
Birkl, R.
Deutsche Molkerei-Zeitung 102 (24/25) 798–801 (1981) [De] [Inst. für Betriebswirtschaft, Süddeutsche Versuchs- & Forschungsanstalt für Milchwirtschaft, Tech. Univ. München, Weihenstephan, Federal Republic of Germany]

Costs of supplying school milk in the various EEC countries, are examined, with extensive tabular data. Particular reference is made to Bavaria. ADL

79

Computer implementation of matrix data structures for controlling food formulation and manufacture.
Norback, J. P.; Matthews, M. E.
Food Technology 36 (4) 77–78, 80–82 (1982) [11 ref. En] [Dep. of Food Sci., Univ. of Wisconsin, Babcock Hall, 1605 Linden Drive, Madison, Wisconsin 53706, USA]

Use of data about menu items stored in matrices to assist with food service planning is described with reference to a hospital food service system, but application to other situations is also discussed. Information is stored in 3 matrices. Planning and forecasting information on each menu item is stored in 1 matrix; technological information (i.e. amounts of each ingredient, labour and power consumption for each serving of a menu item) in a 2nd; and costs and nutritional content of all ingredients in a 3rd. The matrices are stored on a computer and are multiplied to obtain information such as cost and nutritional content/serving. In hospital food service, such tasks as calculating nutrient delivery to individual patients can be undertaken; other applications could include calculation of values for nutritional labelling when raw ingredients change. A prototype food service planning system, IFDAM, comprising routines written in Fortran, has been implemented at the University of Wisconsin, Madison; the application includes >250 menu items and >450 ingredients. DIH

80

The practice of hospitality management. [Book]
Pizam, A.; Lewis, R. C.; Manning, P.
xv + 530pp. ISBN 0-87055-401-8 (1982) [many ref. En]
Westport, Connecticut, USA; AVI Publishing Co. Inc.
[Univ. of Massachusetts, Amherst, Massachusetts 01002, USA]

This book gives the text of 51 papers presented at The World Hospitality Congress: Hospitality management: State of the Art and Future Prospects, held on March 9-12, 1981 in Boston, Massachusetts, USA. Some papers include aspects of interest in food science and technology. An 8-pp. bibliography and a 12-pp. subject index are included. AJDW

81

[Hygienic-bacteriological studies in station restaurants.] Hygienisch-bakteriologische Untersuchungen in Bahnhofsrestaurants.
Nikodemusz, I.; Dakay, M.; Magyar, M.; Kelemen, A.
Zentralblatt für Bakteriologie, Mikrobiologie und Hygiene, 1B **174** (5) 471-476 (1981) [17 ref. De, en] [Inst. for Hygiene, Hungarian State Railways, Dozsa Gy. ut 112, 1068 Budapest, Hungary]

Studies were conducted on the bacteriological quality of washed glasses, plates and worker's smocks in 4 station restaurants. 100 plates and 100 glasses (including both freshly-washed and dried samples) were tested using endo-agar and NaCl agar. No microorganisms could be detected on 44 glasses and 47 plates with endo agar; a total of 30 utensils (not differentiated) gave no microbial growth on NaCl agar. Coliforms, *Escherichia coli, Klebsiella* sp., and pigment-forming bacteria predominated on endo agar; micrococci and streptococci predominated on NaCl agar. Aerobic sporeformers were quite commonly detected. Pathogenic staphylococci were detected on 16 freshly-washed and 8 dry items. Workers' smocks were evaluated using nutrient agar and endo agar. Organisms identified, sometimes at high counts, included micrococci, streptococci, sarcinae, spore-formers, intestinal bacteria, pigment-forming bacteria, yeasts and moulds. Intestinal bacteria included coliforms, *Escherichia coli* and *Klebsiella* sp. AJDW

82

Data structures for integrating quality and cost factors in a foodservice operation.
Norback, J. P.; Matthews, M. E.
Journal of Food Protection **44** (5) 364-368 (1981) [7 ref. En] [Dep. of Food Sci., Univ. of Wisconsin, Madison, Wisconsin 53706, USA]

Use of matrices for organising management information is illustrated with reference to food service operations. In the example given, data on raw material, energy and labour requirements for individual menu items are stored in 1 matrix (designated R), forecasted demand for each menu item for particular meals or time periods is stored in another matrix (S), and cost per unit of raw materials, energy and labour is stored in a 1-dimensional matrix P. The various product matrices that can be produced (R × P, S × R etc.) give much useful information about use of resources; S × R × P gives a 1-dimensional cost per meal matrix. Information about nutrient content of meals can also be handled in this way, and the matrix structure is applicable to management data from food processing operations as well as food service. DIH

83

[Roasting and baking oven, multi-level roasting oven.] Brat- und Backöfen, Etagenbratöfen.
Schwebel, W.
GV-Praxis mit Tiefkühlpraxis **21** (11) 137-138 (1981) [De]

The design, construction, basic principles and operation of roasting/baking ovens for use in catering facilities are discussed; effects of constructional material on energy economy and ease of cleaning are considered. Data for power consumption and cooking times are given. AJDW

84

[Quality changes during warm-holding of foods in catering facilities.]
Karlström, B.
SIK Rapport No. 513, 48pp. (1982) [many ref. Sv, en] (SIK - Svenska Livsmedelsinst., Box 5401, S-402 29 Göteborg, Sweden]

This publication is the author's thesis for a doctorate at Chalmers Technical University, Göteborg, Sweden. Aspects covered include warm and cold systems for handling of foods; studies on effects of warm-holding systems and time/temp. combinations on sensory and nutritional quality of prepared foods; effects of RH and atm on quality retention; the relation between volatile compounds content and sensory quality; comparison between warm-holding and cooling/reheating systems; the relation between sensory quality and nutritional value; and recommendations for improvement in equipment and procedures for warm-holding and distribution of prepared foods. AJDW

85

[Some nutritional changes in frozen foods.]
Mnukova, J.
Vyziva Lidu **25** (9) 134-135 (1980) [Cs] [Inst. Hygieny & Epidemiologie, Prague, Czechoslovakia]

Dishes prepared for canteen feeding in the Mochov (Czechoslovakia) refrigeration plant were packaged, after cooking, in plastics bags or in Al foil trays, tunnel-frozen to −38°C, and stored at −18°C for 3 months. Thiamin and riboflavin contents, and ascorbic acid contents where relevant, of the freshly frozen products were resp. (mg/100 g): cauliflower soup, 0.018, 0.031 and 7.15; potato soup, 0.024, 0.029 and 1.20; Frankfurt soup, 0.179 and 0.048; beef goulash, 0.029 and 0.087; pork with caraway, 0.235 and 0.136; minced roast meat, 0.160 and 0.157; stewed beef liver, 0.148 and 1.4; lung in cream, 0.077 and 0.343; pork with cabbage, 0.175, 0.090 and 12.6; strawberry dumplings, 0.088, 0.2 and 5.0; stewed cabbage, 0.03, 0.024 and 6.2; stewed rice 0.015 and 0.035; and carrot salad, not given, not given and 3.6. Vitamin losses after storage for 3 months are tabulated for all variants in bag and tray packaging. Mean losses were resp.: thiamin 19.5 and 15.4%, riboflavin 8.6 and 7.1%, and ascorbic acid 62 and 51%. Mean losses in reheating the dishes in a convection oven ranged for the 3 vitamins resp. from 18, 15 and 28% at 190°C for 26 min to 51, 8.6 and 50% at 110°C for 63 min; for microwave heating (6-10 min), the losses were 15, 9 and 25%; for IR heating (22 min), they were 23, 15 and 27%; and for boiling water-bath heating (17-20 min), they were 16, 8 and 29%. SKK

86

[Status of institutional catering in 1980.] Der Standort der Gemeinschaftsverpflegung 1980.
Paulus, K.
Ernährungs-Umschau 28 (1) 4–7; 2 (1981) [10 ref. De, en] [Bundesforschungsanstalt für Ernährung, Karlsruhe, Federal Republic of Germany]

The various economic, nutritional, sanitary, etc. demands made on institutional catering are briefly surveyed, operations involved in various forms of institutional catering are briefly described and possible future trends are discussed. DIH

87

Development of a canned meal for hot vending.
Jennings, R. J.
Food Technology in Australia 33 (4) 196, 198–199 (1981) [En] [H. J. Heinz Co., Australia Ltd., PO Box 57, Dandenong, Victoria 3175, Australia]

The Super Snack range was developed for the Heinz Food Service Division, as a complete self-contained meal for service from a hot vending machine. The range provides a complete 2 course meal consisting of 1 soup and 1 entree, packed in 66 × 76.5 mm steel easy-open cans with a nominal serving size of 225 g. The emphasis was on the use of quality ingredients. Tabulated data show the recommended holding times in the vending machine at 66°C for the individual portion soups (beef and vegetable, and tomato) and entrees (baked beans, spaghetti tomato sauce/cheese, ravioli bolognaise, tortellini bolognaise, spaghetti bolognaise, vegetable beef casserole, curried beef/rice, and steak and kidney), based on panel assessment of all attributes. Most products showed no colour or flavour problems up to 17 days, with the exception of colour in tomato var. and flavour in the curry. The colour of the bean pack degraded noticeably from 7–8 days on. Storage life was also limited by darkening of pasta, oil separation and a tendency of the diced meat to become noticeably firmer with time. Effects of elevated temp. on the possibility of spoilage by heat resistant thermophilic spores, and on the can, tin plate, internal lacquer system or label are discussed. Distribution, stock turnover, types of outlet and market acceptance of the Super Snack are also considered. VJG

88

Feeding the fans.
Anon.
Fast Food Feb., 35–38 (1980) [En]

The complete contrast between feeding fans at sporting events in the UK, where catering is an afterthought, and in the USA where catering arrangements are seen as part of the total attraction, is discussed. ARA Food Services (leisure division), who have the contract to serve fans at Chelsea's Stamford Bridge ground, have been investing their own money in the catering facilities and trying to use some of the American ideas on stadium catering. The central commissary or production unit, contains 2 heavy-duty high capacity forced air convection ovens, 2 deep-fat fryers, storage space and a severy. Foil wrapped hot dogs and burgers take 4 min to reheat. Tray boys walk through the crowds serving hot dogs, burgers, meat pies, popcorn and drinks from rigid polyethylene freezer-style boxes. VJG

89

[Important aims of the institutional catering industry.] Wesentliche Leistungsziele von Gemeinschaftsverpflegungsbetrieben.
Bottler, J.
Ernährungs-Umschau 28 (2) 53–57; 42 (1981) [De, en] [Wirtschaftslehre des Grosshaushalts, Univ., Diezstrasse 15, 6300 Giessen, Federal Republic of Germany]

Chief and subsidiary aims of institutional catering operations are discussed; as well as actual supply of food to the consumer (subject itself to differing nutritional requirements according to type of institution) these aims include physical and psychological regeneration of the consumer; improvement of nutritional and table habits, training of workers and consumers; influencing social behaviour, efficiency of operation; providing a positive image for catering operations; and indirect income transfer (via subsidised operations). Means of achieving these aims are briefly described. DIH

90

[Methods and equipment in catering.]
Sweden, SIK – Svenska Livsmedelsinstitutet
SIK Rapport No. 510, 53pp. (1982) [Sv]

The text is given of the following papers presented at SIK, Göteborg on 25–26 Nov. 1981 and the Authority for Technical Development, Stockholm, on 2–3 Feb. 1982. Food processing operations in catering facilities and their use with various distribution systems, by Y. Andersson (p. 1). Catering equipment – a future perspective, by N. Bengtsson (pp. 2–3). Frying, by L. Ek (pp. 4–15). Boiling and heating, by T. Ohlsson (pp. 16–19). Heating in a convection oven/cooling/thawing unit, by C. Skjöldebrand (pp. 20–23). What happens to potatoes during boiling, by B. Svensson (pp. 24–26). Equipment for boiling of potatoes, by L. Österström (pp. 27–40). Potatoes in catering – not a product which can be handled without care, by L. R. Carlstedt (pp. 41–43). System for boiling of potatoes, by Y. Andersson & U. Gustafsson (pp. 44–46). What problems do cooks have with boiling of potatoes, by C. Andre (pp. 47–51). AJDW

91

[Vanilla milk – a new vogue in the school milk sector.] Vanillemilch – ein neuer Impuls auf dem Schulmilchsektor.
Anon.
Österreichische Milchwirtschaft 37 (3) 56 (1982) [De]

The Wiener Molkerei, a Viennese dairy plant, has been test marketing from the beginning of the current school year a vanilla milk (pasteurized milk with 3.6% fat, vanilla extract and sugar) in 250 ml Tetra Brik cartons in all schools providing school milk for their pupils. Consumption of this milk is considered. In Dec. 1981 another Viennese dairy plant successfully launched vanilla milk. FL

92

[School milk 2 – technology, distribution, marketing and nutrition.] Schulmilch 2 – Technologie, Distribution, Marketing, Ernährung.
Bücker, J.
Molkereitechnik 52, 132pp. ISBN 3-7862-0053-X (1981) [De]

This publication contains papers presented at the second School Milk Congress, held in Giessen on 11-12 May 1981, including the following; Nutritional situation of school children, by E. Renner (pp. 11-14). School milk situation in the Federal Republic of Germany, by U. Kosmack (pp. 15-16). School milk in Austria, by A. Eder (pp. 17-29). Experience with the counselling on sensible nutrition in the school, by G. Trurnit (pp. 21-23). Development of school milk consumption in Bavaria, by A. Baumann (pp. 26-28). Development of school milk consumption in Hessen, by R. Meissner (pp. 29-32). School milk provision in Schleswig-Holstein and Hamburg, by G. Bauch (pp. 33-35). Practical experience with school milk programme in Baden-Württemberg, by G. Völlm (pp. 36-37). Healthy school breakfast - action program in Nordrhein-Westfalen, by H. Kalkhofen (pp. 38-39). Organizational problems with school milk, by D. Töter (pp. 42-44). Experience with school milk from the viewpoint of parents, by H. Schmitt (pp. 50-52). School milk in the Netherlands, by M. H. van Roggen-Benes (pp. 53-56). Nutrition of school children in the Netherlands, by G. J. Hiddink (pp. 57-60). New milk dispensing system for kindergarten and schools, by I. Gömmer (pp. 61-63). Energy-reduced flavoured milks in the school, by N. Scholz & E. H.Reimerdes (pp. 66-69). Fluoridized milk for the school child, by H. Galon (pp. 70-71). Performance and costs of alternative marketing measures for school milk sales, by H. Wietbrauk (pp. 72-77). Economy of school milk from the viewpoint of the dairy plant, by R. Birkl (pp. 78-84). Experience and success with the distribution of school milk, by W.-R. Thym (pp. 85-97). A practical example of marketing concept for school milk, by D. Ott (pp. 88-90). Promotion of school milk illustrated by 2 case reports in Essen and Kassel, by C. W. Schoberth (pp. 93-99). Discussions are given on pp. 103-115. FL

93

[Hygiene rules applicable to materials used in catering and food processing.]
Anon.
RTVA 20 (174) 17-21 (1981) [Fr]

Aspects considered include: classification of surfaces into primary food-contact, accidental food-contact and non-food-contact types; distribution of these types in food processing facilities; interior and exterior angles; assembly and joining of units; overlaps where horizontal surfaces meet vertical surfaces; doors; drawers; shelves; and feet or castors of items of equipment. AJDW

94

Reducing energy loss in foodservice operations.
McProud, L. M.
Food Technology 36 (7) 67-69, 71 (1982) [11 ref. En]
[Dep. of Nutr. & Food Sci., San Jose State Univ., San Jose, California 95192, USA]

Potential savings in energy in food service operations resulting from not preheating a convection oven were investigated. A gas-heated oven with an electric fan was monitored for gas and electricity consumption during baking of beef loaves to an internal temp. of 74-77°C, either with preheating of the oven to 163°, or without preheating. Total energy consumption with and without preheating was 43 863 and 37 671 Btu, a saving due to not preheating of 14%. Wt. loss, fat content and overall sensory acceptability of processed beef loaves were determined. Wt. loss and fat content did not differ significantly between treatments. Overall acceptability, on a scale of 1 (very unacceptable) to 7 (very acceptable) of beef loaves baked in preheated and non-preheated ovens was 6.6 and 5.2, resp. Subjective rating of beef loaf colour showed that samples baked in a non-preheated oven were slightly paler. Possibility of reformulation of the product for baking in non-preheated ovens is considered. DIH

95

Energy-efficient cooking systems for muscle foods.
[Review]
Mandigo, R. W.; Janssen, T. J.
Food Technology 36 (4) 128-133 (1982) [24 ref. En]
[Anim. Sci. Dep., Univ. of Nebraska, Lincoln, Nebraska 68583, USA]

Because of the current high level of energy costs and the possibility of increased costs due to anticipated energy shortages, the energy utilization efficiency of food processing equipment and cooking appliances has become an important factor. This paper reviews possible ways of conserving energy in the meat processing industry, the food service industry and the home. Suggested energy-saving methods include: careful control of smokehouse operations; use of microwave systems for precooking chicken and bacon, tempering meat and coagulating extruded reformed meat; and replacement of conventional still-air ovens in the food service industry by microwave ovens or convection ovens. JA

96

Retort-pouch packaging of muscle foods for the armed forces.
Tuomy, J. M.; Young, R.
Food Technology 36 (2) 68-70 (1982) [8 ref. En] [Anim. Products Group, US Army Natick Res. & Development Lab., Natick, Massachusetts 01760, USA]

The use of retort-pouch packaging of muscle foods for the armed forces is discussed, covering: history of the pouches; requirements for rations with regard to certain criteria e.g. eaten without heating, long storage life, light wt. and small vol., easy to carry and prepare, and good quality; benefits of the pouch, especially advantages over canned products; pouch requirements, particularly pouch failure rate; and successful development of the pouch. SP

97

Home-delivered meals for the elderly. A nutritional study.
Turner, M.; Glew, G.
Food Technology 36 (7) 46, 48-50 (1982) [6 ref. En]
[Polytechnic, Queensgate, Huddersfield HD1 3DH, UK]

Nutritional quality was studied of meals delivered by 5 food service organizations to elderly people in their homes in Leeds, UK ('meals on wheels'). A number of 2-course meals were sampled, and contents of protein, energy, Ca and Fe were calculated from portion wt. and food composition tables, and vitamin C contents were determined at different times during delivery of the meals. Results are tabulated. There was considerable variation between food service organization in nutrient content of meals, and the ranges usually represented inadequate to excessive provision. It is recommended that foods for such meals be selected on the basis of nutritional guidelines, and that methods for maintaining foods at temp. ≥65°C should be improved. DIH

98

Foodservice in health care facilities. The special environment facing managers. [Review]
Matthews, M. E.
Food Technology 36 (7) 53-55, 58-60, 62-64, 71 (1982) [35 ref. En] [Dep. of Food Sci., Univ. of Wisconsin-Madison, 1605 Linden Dr., Madison, Wisconsin 53706, USA]

Food service operations in hospitals are reviewed, considering the structure of food service system (cook/chill, cook/freeze, etc.), characteristics of food services in hospitals, food purchasing methods, and resource management and research. DIH

99

Integrating labor data into a computer model for a foodservice system.
Schill, T. G.; Norback, J. P.; Matthews, M. E.
Food Technology 36 (7) 72-75 (1982) [10 ref. En] [Dep. of Food Sci., Univ. of Wisconsin, Babcock Hall, 1605 Linden Dr., Madison, Wisconsin 53706, USA]

Modelling a food service system by manipulation of data stored in matrices is described [see also FSTA (1982) 14 11A901]. Details of labour requirements are added to the model by constructing a matrix that records the number of times a particular labour operation occurs in production of a single menu item (for all the menu items involved in the food service operation) and by having a single column matrix that stores the time required for each labour operation. Time required for preparation of each menu item can then be calculated. Work schedules, etc. can then be simulated by management. DIH

100

Cook-chill uncovered.
Anon.
Chilled Foods 1 (1) 38-39, 42 (1982) [En]

Aspects of the topic considered are: equipment for cook-chill catering; its use for banqueting and conference catering, school meals, in industry, and in the Health Service; the German Juno system; cryogenics for chilling; and advantages of the cook-chill system. VJG

101

Courtaulds Acetate opts for cryogenic cook-chill.
Watson, B.
Chilled Foods 1 (1) 41-42 (1982) [En]

A description is given of the operation of the UK's only cryogenic cook-chill catering system which has been used at Coutaulds Acetate, Spondon, Derby plant since summer 1980. 4 finishing kitchens and one Vendepac automatic vending facility are supplied from the central cook-chill production kitchen, which with a staff of only 7, working a 5 day 40 h wk, has the ability to provide meals and snacks at all times of the day or night for some 2900 employees. The heart of the operation is the BOC liquid nitrogen chilling cabinet which has the capacity to chill up to about 80 kg of product in 1 batch. Regeneration depending on product and method used takes from ½ to 25 min and is accomplished by either microwave oven or an IR regeneration unit. VJG

102

Developing new cook-chill operations.
Anderson, R.
Chilled Foods 1 (2) 36-38 (1982) [En]

Aspects which need to be considered when developing a cook-chill system for hospital catering are: what is to be achieved; why are there problems in the present system; what are the types of food service available; should the system be central or at ward level; when should it be done; and who should do it. Tabulated data present: size of hospitals where cook-chill is being developed; food service systems available to hospitals; energy consumption survey for conventional and cook-chill systems at 2 hospitals; and a comparison of equipment requirements for conventional and chilled meals service. The article concludes that the chilled meals food service as operated by the West Midlands Regional Hospital Authority has been extremely successful as far as patients and caterers are concerned. VJG

103

Cost effective quality food service. An institutional guide. [Book]
Stokes, J. F.
xiv + 314pp. ISBN 0-89443-083-1 (1979) [many ref. En]
Germantown, Maryland, USA; Aspen Systems Corp.

This book includes the following chapters: Food service cost management (pp. 1-12, 3 ref.). Making cents out of cycle menus (pp. 13-26, 5 ref.); Nourishments: a hidden cost (pp. 27-31, 1 ref.); Purchasing, storing, receiving opportunities (pp. 33-48, 4 ref.); Inventory cost control (pp. 49-56, 1 ref.); Preparation practicalities and serving standards (pp. 57-75, 3 ref.); Food service costs and maximizing reimbursement (pp. 77-91, 4 ref.); Controlling labour costs (pp. 93-116, 3 ref.); Energy cost management (pp. 117-132, 1 ref.); Selecting energy-efficient equipment (pp. 133-156, 3 ref.); and Essential operation of equipment (pp. 157-169, 3 ref.). Appendices cover: Menus and recipes (pp. 171-263); Portion control data (pp. 265-287); and Cost per fuel of energy saving vent hood (new installations) (pp. 289-307). A 6-pp. subject index is included. AJDW

104

[Can one rely on restaurant menus?]
Arvidsson, I.; Ytterberg, U.; Hultin, K.; Hultgren, J.
Svensk Veterinartidning 34 (8/9) 387–392 (1982) [Sv]
[Navesta, 640 23 Valla, Sweden]

The reliability of nomenclature of foods in restaurants is discussed with special reference to meat. Aspects considered include: legislation in Sweden; consumer-related aspects; possible types of deceptions; imports of unusual meat types into Sweden; use of kangaroo, buffalo, donkey, horse or mule meats; use of re-formed meat pieces; definitions of various meat products in standards; and detection of fraudulent use of unusual meats. AJDW

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